STOPPING WATER POLLUTION AT ITS SOURCE

MISA

SIX MONTH MONITORING DATA REPORT

ORGANIC CHEMICAL MANUFACTURING SECTOR

(OCTOBER 1, 1989 to MARCH 31, 1990)

Ontario

Environment
Environnement

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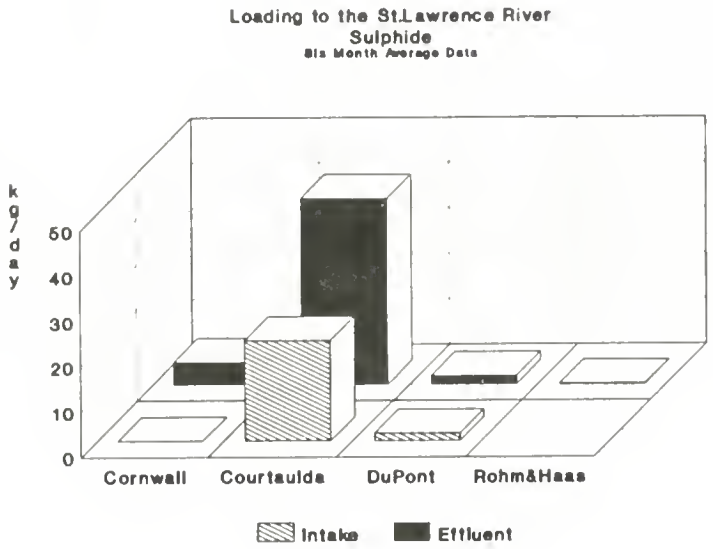


Figure B-15 Sulphide

Note 1: Blank means no data

Note 2:

No significant Sources of Sulphide Were Identified for the St. Clair River Basin and the Lake Erie/Ontario Basin.

APPENDIX C

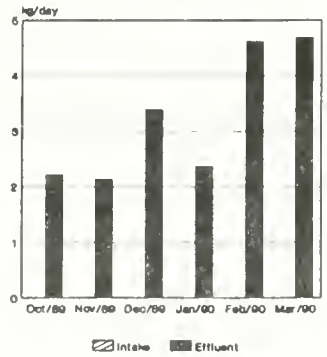
PLOTS OF MONTHLY AVERAGE SITE LOADINGS

		PAGE
Figure C-1	DOC	C-2
Figure C-2	TSS	C-6
Figure C-3	OIL AND GREASE	C-10

FIGURE C-1
MONTHLY AVERAGE SITE LOADINGS - DOC
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

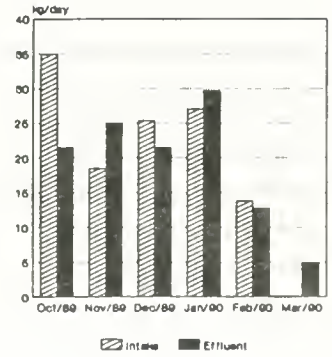
TO THE ST. CLAIR RIVER

DOC
FOR AKZO CHEMICALS LTD.

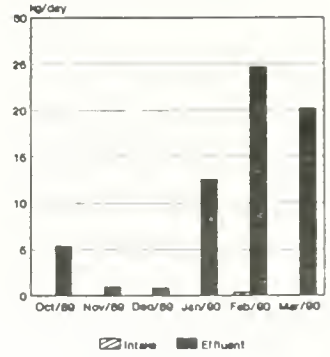


No intake data

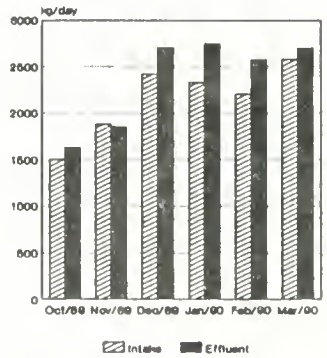
DOC
FOR BASF CANADA INC.



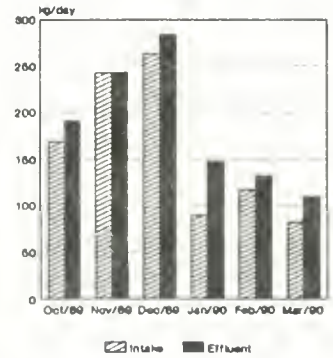
DOC
FOR CHINOOK GROUP



DOC
FOR DOW CHEMICAL



DOC
FOR DU PONT (CORUNNA)



DOC
FOR ESSO CHEMICAL

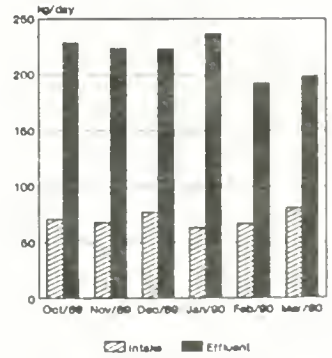
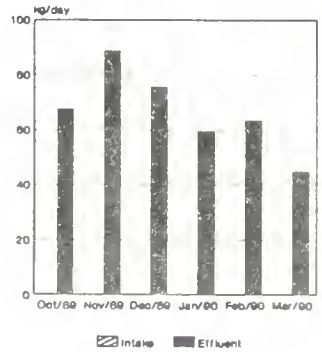


FIGURE C-1 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - DOC
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

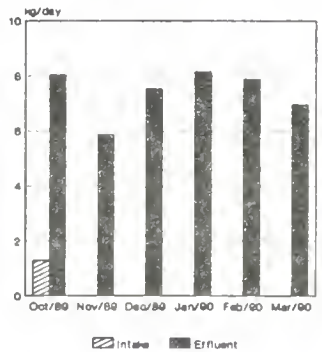
TO THE ST. CLAIR RIVER

DOC
FOR ETHYL CANADA

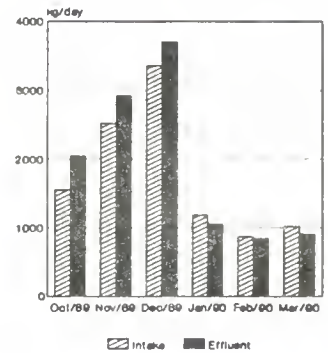


No Intake data

DOC
FOR NOVACOR (MOORETOWN)

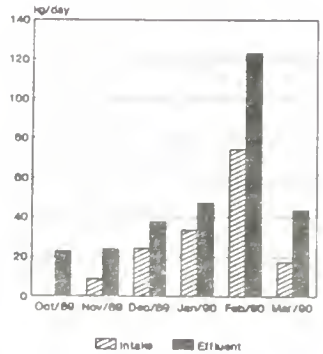


DOC
FOR POLYSAR LTD.

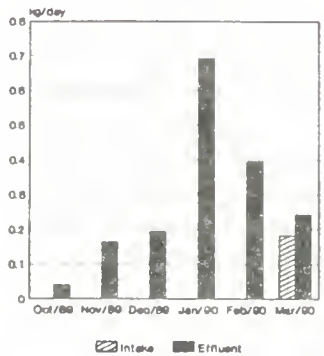


TO THE LAKE ERIE/ONTARIO BASIN

DOC
FOR B.F. GOODRICH



DOC
FOR CANADIANOXY



DOC
FOR CELANESE

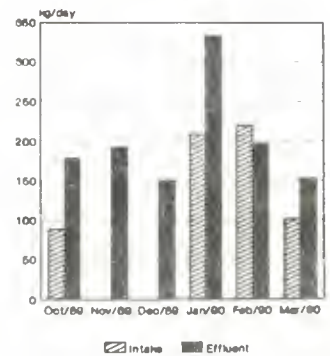
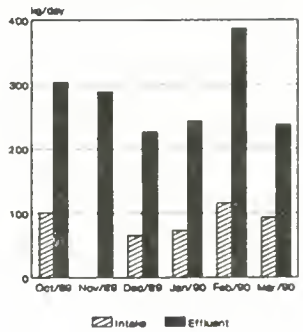


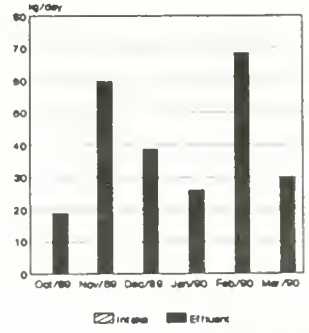
FIGURE C-1 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - DOC
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE LAKE ERIE/ONTARIO BASIN

DOC
FOR DU PONT (KINGSTON)

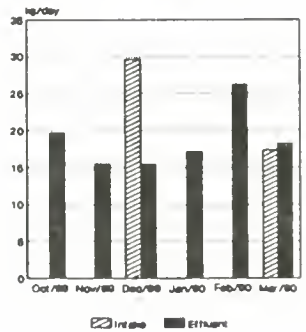


DOC
FOR GE PLASTICS



No DOC Intake data

DOC
FOR STEPAN



DOC
FOR UNIROYAL

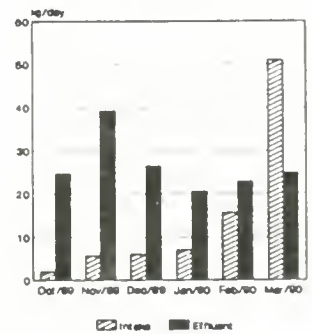
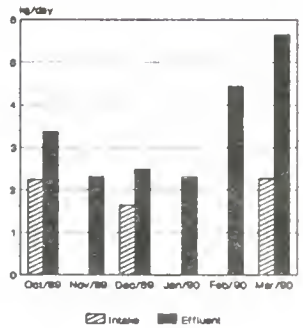


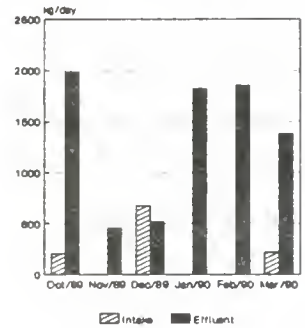
FIGURE C-1 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - DOC
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE ST. LAWRENCE RIVER

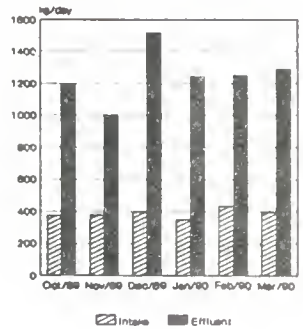
DOC
FOR CORNWALL CHEMICALS



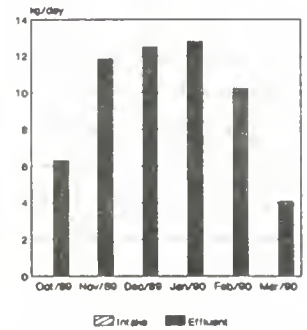
DOC
FOR COURTAULDS FIBRES



DOC
FOR DU PONT (MAITLAND)



DOC
FOR ROHM AND HAAS (M)

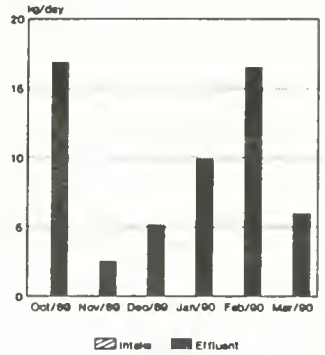


No DOC intake data

FIGURE C-2
MONTHLY AVERAGE SITE LOADINGS - TSS
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

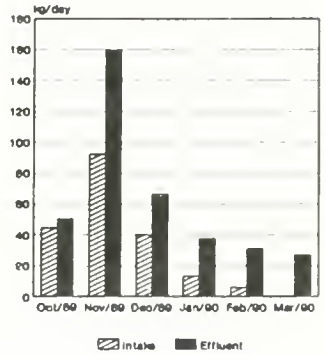
TO THE ST. CLAIR RIVER

TSS
FOR AKZO CHEMICALS LTD.

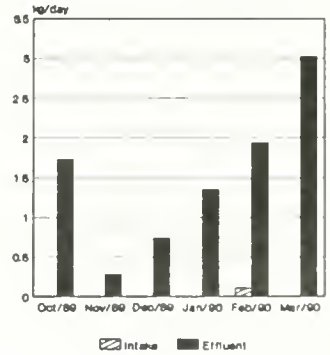


No intake data

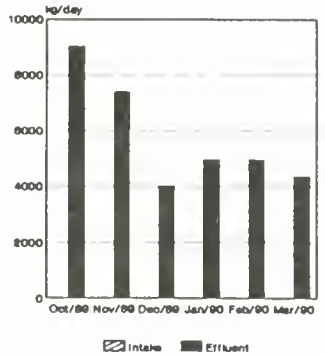
TSS
FOR BASF CANADA INC.



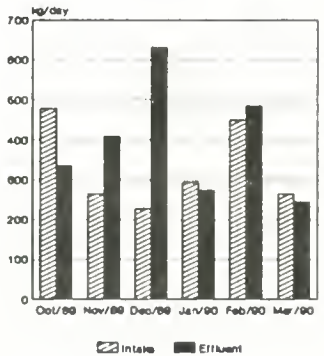
TSS
FOR CHINOOK GROUP



TSS
FOR DOW CHEMICAL



TSS
FOR DU PONT (CORUNNA)



TSS
FOR ESSO CHEMICAL

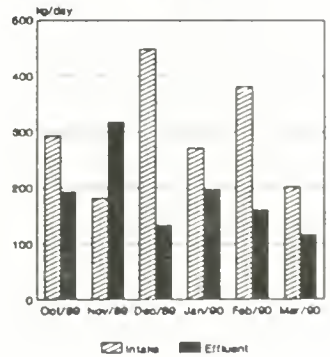
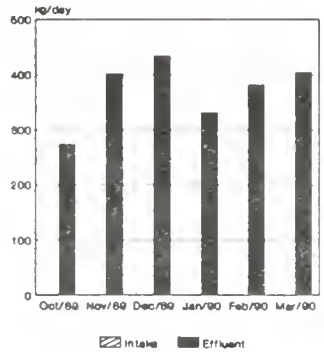


FIGURE C-2 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - TSS
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

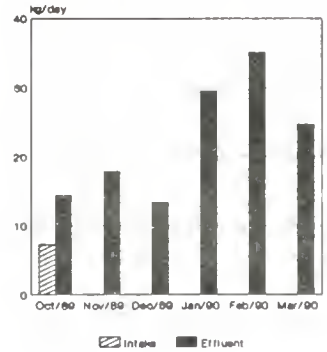
TO THE ST. CLAIR RIVER

TSS
FOR ETHYL CANADA

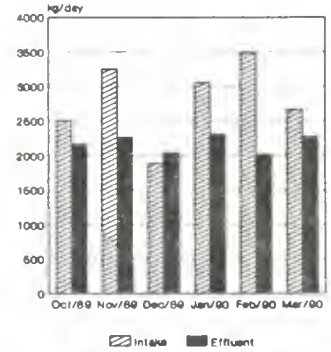


No Intake data

TSS
FOR NOVACOR (MOORETOWN)

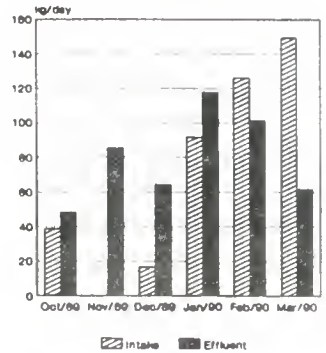


TSS
FOR POLYSAR LTD.

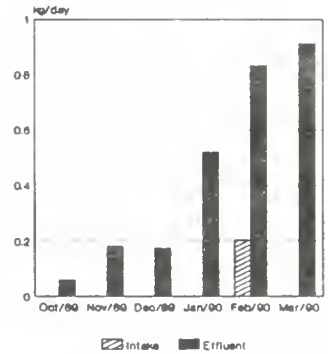


TO THE LAKE ERIE/ONTARIO BASIN

TSS
FOR B.F. GOODRICH



TSS
FOR CANADIANOXY



TSS
FOR CELANESE

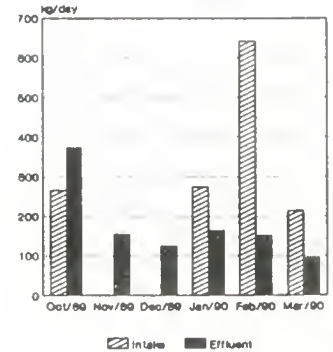
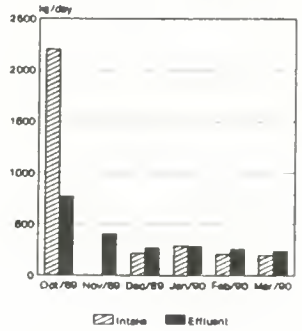


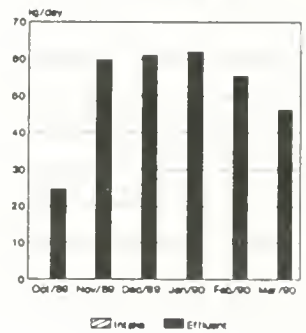
FIGURE C-2 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - TSS
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE LAKE ERIE/ONTARIO BASIN

TSS
FOR DU PONT (KINGSTON)

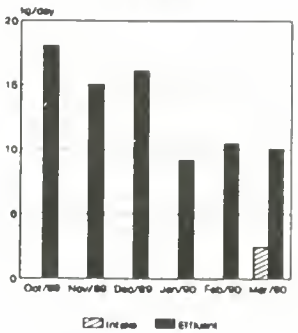


TSS
FOR GE PLASTICS



No TSS Intake data

TSS
FOR STEPAN



TSS
FOR UNIROYAL

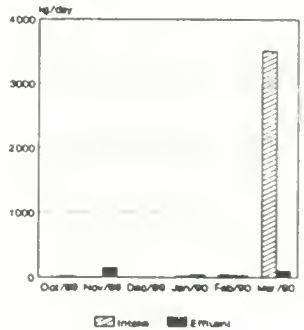
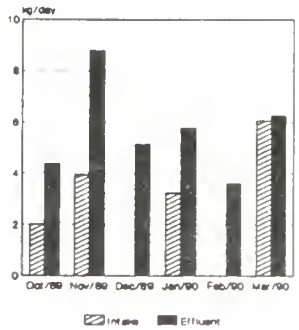


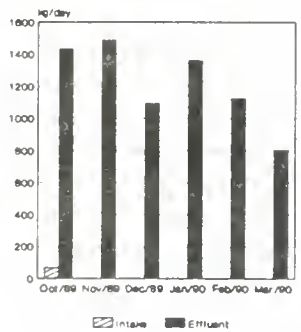
FIGURE C-2 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - TSS
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE ST. LAWRENCE RIVER

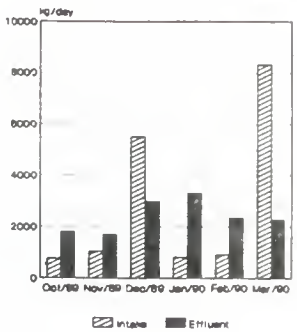
TSS
FOR CORNWALL CHEMICALS



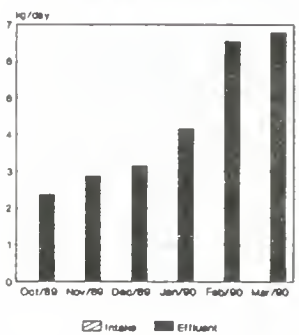
TSS
FOR COURTAULDS FIBRES



TSS
FOR DU PONT (MAITLAND)



TSS
FOR ROHM AND HAAS (M)

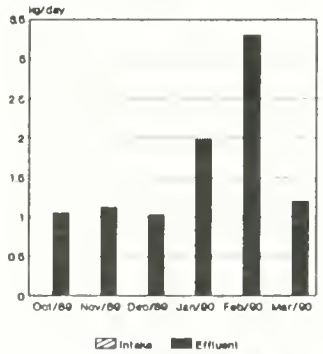


No TSS Intake data

FIGURE C-3
MONTHLY AVERAGE SITE LOADINGS - OIL AND GREASE
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

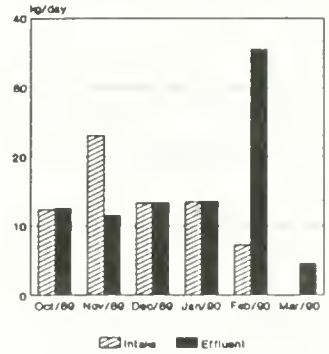
TO THE ST. CLAIR RIVER

OIL AND GREASE
FOR AKZO CHEMICALS LTD.

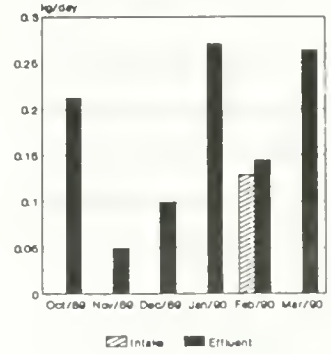


No intake data

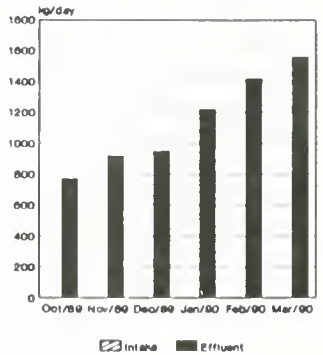
OIL AND GREASE
FOR BASF CANADA INC.



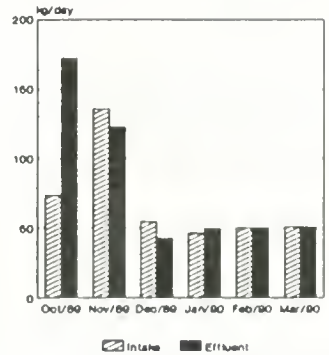
OIL AND GREASE
FOR CHINOOK GROUP



OIL AND GREASE
FOR DOW CHEMICAL



OIL AND GREASE
FOR DU PONT (CORUNNA)



OIL AND GREASE
FOR ESSO CHEMICAL

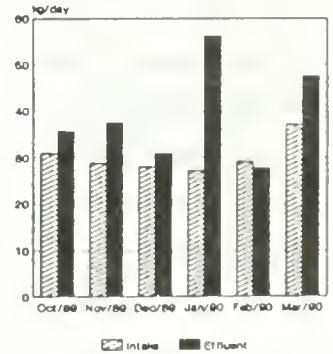
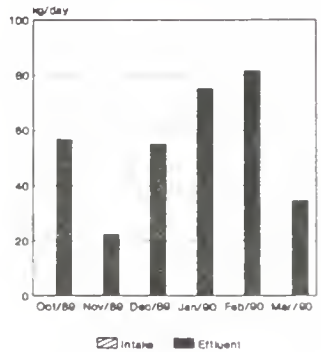


FIGURE C-3 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - OIL AND GREASE
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

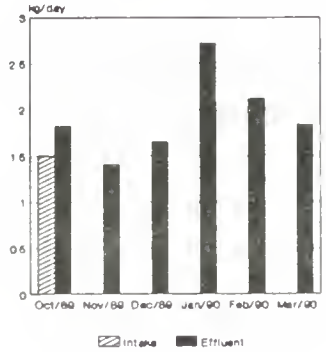
TO THE ST. CLAIR RIVER

OIL AND GREASE
FOR ETHYL CANADA

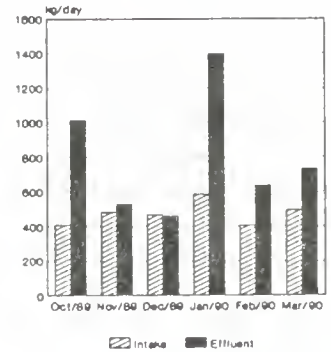


No Intake data

OIL AND GREASE
FOR NOVACOR (MOORETOWN)

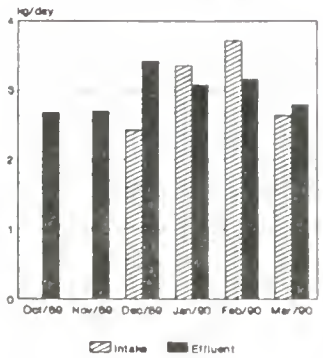


OIL AND GREASE
FOR POLYSAR LTD.

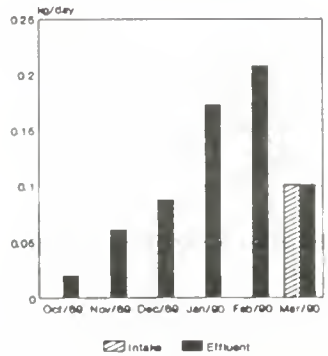


TO THE LAKE ERIE/ONTARIO BASIN

OIL AND GREASE
FOR B.F. GOODRICH



OIL AND GREASE
FOR CANADIANOXY



OIL AND GREASE
FOR CELANESE

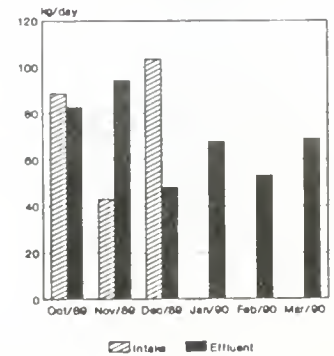
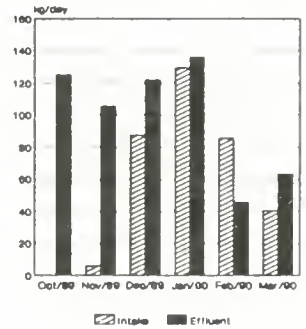


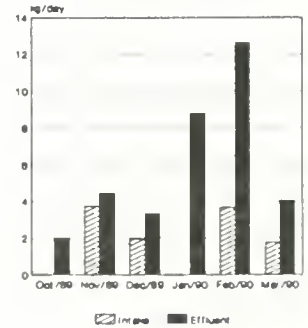
FIGURE C-3 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - OIL AND GREASE
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE LAKE ERIE/ONTARIO BASIN

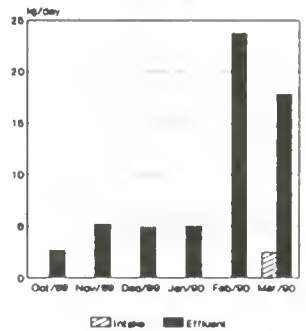
OIL AND GREASE
FOR DU PONT (KINGSTON)



OIL AND GREASE
FOR GE PLASTICS



OIL AND GREASE
FOR STEPAN



OIL AND GREASE
FOR UNIROYAL

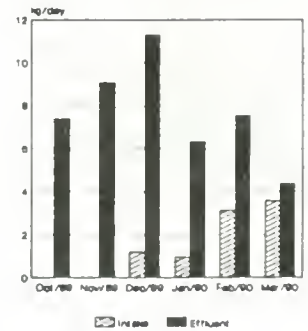
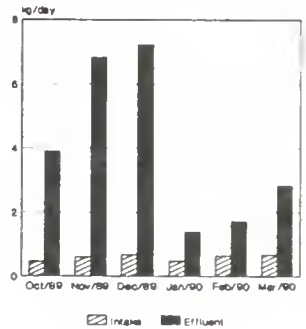


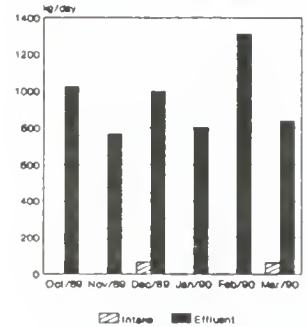
FIGURE C-3 (cont'd)
MONTHLY AVERAGE SITE LOADINGS - OIL AND GREASE
OCM SECTOR
OCTOBER 1, 1989 - MARCH 31, 1990
(Note: Scales vary with each plot)

TO THE ST. LAWRENCE RIVER

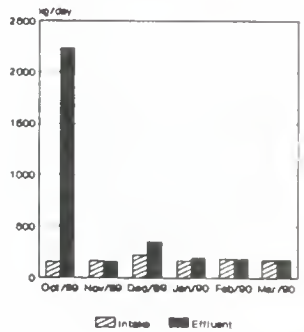
OIL AND GREASE
FOR CORNWALL CHEMICALS



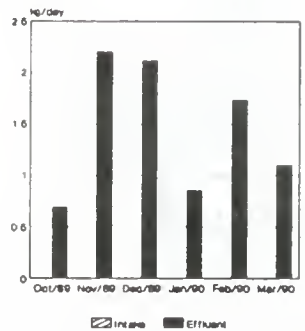
OIL AND GREASE
FOR COURTAULDS FIBRES



OIL AND GREASE
FOR DU PONT (MAITLAND)



OIL AND GREASE
FOR ROHM AND HAAS (M)



No oil and grease intake data

APPENDIX D

SIX-MONTH AVERAGE CONCENTRATION/LOADING TABLES BY INDIVIDUAL CONTROL POINTS FOR EACH PLANT

THE ST. CLAIR RIVER PLANTS

	PAGE
AKZO CHEMICALS LTD. - SARNIA	D-2
BASF CANADA INC. - SARNIA	D-4
CHINOOK GROUP LTD. - SOMBRA	D-6
DOW CHEMICAL CANADA INC. - SARNIA	D-8
DUPONT CANADA INC. - CORUNNA	D-20
ESSO CHEMICAL CANADA - SARNIA	D-22
ETHYL CANADA INC. - CORUNNA	D-24
NOVACOR CHEMICALS LTD. - MOORETOWN	D-26
POLYSAR LTD. - SARNIA	D-28

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – AKZO CHEMICALS LTD. – SARNIA

	PARAMETER	UNIT	IN 0600	OT 0100
o	DOC	mg/L	–	2.3
o	TOC	mg/L	–	2.8
o	COD	mg/L	–	–
o	Ammonia plus Ammonium	mg/L	–	0.10
o	Nitrate+Nitrite	mg/L	–	0.29
o	Total Kjeldahl nitrogen	mg/L	–	0.2
o	Total suspended solids	mg/L	–	6
o	VSS	mg/L	–	–
o	Total phosphorus	mg/L	–	0.1
o	Hydrogen ion (pH)		–	6.9
o	Specific conductance	uS/cm	–	659
o	Oil and grease	mg/L	–	1.0
	Phenolics (4AAP)	ug/L	–	2.6
	Ftflow	m3/day	–	1614

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0600 – Intake Water to Site
OT 0100 – Reactor #4 Cooling Water to River

OCM SECTOR SIX MONTH REPORT -- DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE -- AKZO CHEMICALS LTD. -- SARNIA

	PARAMETER	IN 0600	OT 0100	TOTAL
o	DOC	--	3.235	3.235
o	TOC	--	4.658	4.658
o	COD	--	--	--
o	Ammonia plus Ammonium	--	0.156	0.156
o	Nitrate+Nitrite	--	0.475	0.475
o	Total Kjeldahl nitrogen	--	0.284	0.284
o	Total suspended solids	--	9.488	9.488
o	VSS	--	--	--
o	Total phosphorus	--	0.161	0.161
o	Oil and grease	--	1.614	1.614
	Phenolics (4AAP)	--	0.004	0.004

EXPLANATORY NOTES:
'--' not required by regulation or no conc/flow data available
'o' -- conventional parameter

SAMPLING POINTS:
IN 0600 -- Intake Water to Site
OT 0100 -- Reactor #4 Cooling Water to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – BASF CANADA INC. – SARNIA

	PARAMETER	UNIT	IN 0500	OT 0100	OT 0200
o	DOC	mg/L	2.0	1.7	1.7
o	TOC	mg/L	2	7	3
o	COD	mg/L	–	–	–
o	Ammonia plus Ammonium	mg/L	0.20	0.20	0.20
o	Nitrate+Nitrite	mg/L	–	–	–
o	Total Kjeldahl nitrogen	mg/L	0.3	0.3	0.5
o	Total suspended solids	mg/L	3	6	14
o	VSS	mg/L	–	–	–
o	Total phosphorus	mg/L	0.1	0.1	0.1
o	Hydrogen ion (pH)		7.7	7.7	7.6
o	Specific conductance	uS/cm	183	197	178
o	Oil and grease	mg/L	1.2	1.3	12.2
	Aluminum	ug/L	30.0	45.0	31.7
	Zinc	ug/L	20.0	20.0	25.0
	Phenolics (4AAP)	ug/L	3.0	2.7	5.7
	Ethylbenzene	ug/L	0.2	4.7	0.2
	Styrene	ug/L	0.3	83.9	0.5
	Acrylonitrile	ug/L	0.8	2974.0	2.7
	Ftflow	m3/day	11623	10376	125

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0500 – Intake Water to Site
OT 0100 – #2 Plant Storm Sewer to River
OT 0200 – #1 Plant Storm Sewer to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

AVERAGE LOADING VALUES (kg/day)

PLANT SITE – BASF CANADA INC. – SARNIA

	PARAMETER	IN 0500	OT 0100	OT 0200	TOTAL
o	DOC	23.905	19.004	0.214	19.218
o	TOC	26.224	83.875	0.422	84.297
o	COD	–	–	–	–
o	Ammonia plus Ammonium	2.325	2.075	0.025	2.100
o	Nitrate+Nitrite	–	–	–	–
o	Total Kjeldahl nitrogen	3.194	3.226	0.058	3.284
o	Total suspended solids	39.292	59.324	2.794	62.118
o	VSS	–	–	–	–
o	Total phosphorus	1.162	1.038	0.013	1.051
o	Oil and grease	13.928	12.440	2.781	15.221
	Aluminum	0.375	0.511	0.004	0.515
	Zinc	0.243	0.227	0.003	0.230
	Phenolics (4AAP)	0.034	0.029	0.001	0.030
	Ethylbenzene	0.002	0.029	*	0.029
	Styrene	0.004	0.579	*	0.579
	Acrylonitrile	0.009	21.442	0.001	21.443

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0500 – Intake Water to Site
OT 0100 – #2 Plant Storm Sewer to River
OT 0200 – #1 Plant Storm Sewer to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – CHINOOK GROUP LTD. – SOMBRA

	PARAMETER	UNIT	IN 0400	CO 0100
o	DOC	mg/L	2.7	74.2
o	TOC	mg/L	–	122
o	COD	mg/L	8	814
o	Ammonia plus Ammonium	mg/L	0.05	1.92
o	Nitrate+Nitrite	mg/L	0.72	1.00
o	Total Kjeldahl nitrogen	mg/L	0.6	16.2
o	Total suspended solids	mg/L	1	14
o	VSS	mg/L	1	17
o	Total phosphorus	mg/L	0.1	2.2
o	Hydrogen ion (pH)		8.3	8.1
o	Specific conductance	uS/cm	257	730
o	Oil and grease	mg/L	0.9	1.9
	Aluminum	ug/L	452.0	348.6
	Chromium	ug/L	2.0	147.7
	Zinc	ug/L	37.0	244.4
	Chromium (hexavalent)	ug/L	–	21.2
	Ftflow	m3/day	–	124

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0400 – Intake Water to Site
CO 0100 – Sump Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – CHINOOK GROUP LTD. – SOMBRA

	PARAMETER	IN 0400	CO 0100	TOTAL
o	DOC	0.334	10.669	10.669
o	TOC	–	16.402	16.402
o	COD	0.990	142.206	142.206
o	Ammonia plus Ammonium	0.006	0.192	0.192
o	Nitrate+Nitrite	0.089	0.108	0.108
o	Total Kjeldahl nitrogen	0.069	2.214	2.214
o	Total suspended solids	0.088	1.513	1.513
o	VSS	0.124	2.970	2.970
o	Total phosphorus	0.007	0.164	0.164
o	Oil and grease	0.110	0.179	0.179
	Aluminum	0.056	0.049	0.049
	Chromium	*	0.009	0.009
	Zinc	0.005	0.015	0.015
	Chromium (hexavalent)	–	0.001	0.001

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0400 – Intake Water to Site
CO 0100 – Sump Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500
o	DOC	mg/L	2.4	2.8	6.4	8.3	5.7	4.3	40.2	2.4	2.6
o	TOC	mg/L	2	3	6	8	7	4	42	2	2
o	COD	mg/L	6	90	56	62	1195	93	170	6	6
o	Ammonia plus Ammonium	mg/L	0.03	0.03	0.03	0.04	5.70	0.06	5.20	0.03	0.16
o	Nitrate+Nitrite	mg/L	0.79	6.25	0.12	0.28	0.03	1.95	0.03	0.26	0.38
o	Total Kjeldahl nitrogen	mg/L	0.5	0.9	0.7	1.0	1.9	1.4	3.5	0.9	1.8
o	Total suspended solids	mg/L	5	12	84	22	47	13	5	7	7
o	VSS	mg/L	5	5	30	13	17	3	4	3	3
o	Total phosphorus	mg/L	0.1	0.1	16.2	0.2	0.4	0.1	0.3	0.1	0.1
o	Hydrogen ion (pH)		8.0	7.6	11.1	7.7	7.6	7.7	7.6	8.0	8.1
o	Specific conductance	uS/cm	203	14012	7055	10275	87915	4590	4877	203	1103
o	Oil and grease	mg/L	2.1	1.2	2.3	1.4	4.0	1.5	68.4	1.5	1.4
	Cyanide Total	mg/L	0.004	0.007	0.005	0.005	0.005	0.005	0.011	0.005	0.005
	Aluminum	ug/L	28.5	45.0	242.2	53.8	707.5	82.0	83.4	58.0	147.5
	Boron	ug/L	9.0	5.7	32.0	9.3	5.7	25.3	3801.4	9.5	9.5
	Chromium	ug/L	4.5	5.5	64.3	9.5	5.7	4.3	16.8	3.0	3.5
	Copper	ug/L	3.0	8.2	119.2	17.8	10.3	6.2	7.0	3.0	4.0
	Lead	ug/L	24.0	34.0	130.5	110.0	34.0	255.0	24.0	24.0	24.0
	Molybdenum	ug/L	6.0	9.3	9.3	9.3	25.5	19.5	29.4	6.0	7.5
	Nickel	ug/L	6.0	16.0	94.3	214.0	64.7	9.2	9.0	6.0	6.0
	Vanadium	ug/L	16.5	4.0	8.7	4.2	10.2	47.0	28.8	16.0	12.0
	Zinc	ug/L	3.0	21.5	206.8	40.0	6.3	3.8	5.5	3.0	3.5
	Arsenic	ug/L	0.6	0.6	0.6	0.6	0.6	0.6	5.8	0.6	0.6
	Mercury	ug/L	0.07	0.09	0.17	0.09	0.09	0.09	0.12	0.09	0.15
	Phenolics (4AAP)	ug/L	7.0	6.2	2.5	6.4	47.6	31.7	7.0	7.8	6.4
	Sulphide	ug/L	55.0	90.0	920.0	50.0	165.0	45.0	95.0	50.0	65.0
	1,1,2,2–Tetrachloroethane	ug/L	0.7	0.8	0.6	25.2	0.7	0.7	0.7	0.8	0.8
	1,1,2–Trichloroethane	ug/L	0.2	0.3	0.2	175.0	0.2	0.2	21.6	0.7	0.3
	1,1–Dichloroethane	ug/L	0.2	0.3	0.3	366.7	0.2	0.2	46.3	1.3	0.3
	1,1–Dichloroethylene	ug/L	0.4	0.4	7.2	34.3	1.4	0.3	0.4	0.5	0.5
	1,2–Dichloroethane	ug/L	0.4	0.5	1.6	1353.9	3.4	0.6	0.6	10.5	0.6
	1,2–Dichloropropane	ug/L	0.2	0.2	0.2	27.6	5.3	0.2	12.5	7.5	4.7

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500
	Bromodichloromethane	ug/L	0.3	1.2	0.5	0.1	0.3	0.3	0.4	0.3	0.3
	Bromoform	ug/L	0.5	4.1	0.4	11.2	0.4	0.4	0.5	0.5	0.6
	Carbon tetrachloride	ug/L	1.0	1.2	148.3	22.2	1.1	0.6	0.9	26.3	1.3
	Chloroform	ug/L	0.4	2.4	34.8	10.9	0.3	0.2	5.0	1.1	0.6
	Chloromethane	ug/L	20.2	1.2	1.9	1.7	1.4	3.3	1.0	10.9	19.8
	Methylene chloride	ug/L	0.3	0.4	0.3	70.1	0.3	0.3	0.3	0.4	0.4
	Tetrachloroethylene	ug/L	0.7	0.9	339.1	96.7	1.0	1.1	0.9	38.5	4.1
	Trichloroethylene	ug/L	0.4	0.4	0.4	31.3	0.4	0.4	0.4	3.4	0.5
	Vinyl chloride	ug/L	3.7	0.7	0.8	21.4	0.7	1.6	0.7	1.8	1.0
	Benzene	ug/L	0.5	0.3	0.1	0.1	0.6	0.2	0.1	0.3	0.3
	Ethylbenzene	ug/L	0.4	0.5	0.3	0.1	0.8	0.6	0.1	0.4	0.2
	2,6–Dinitrotoluene	ug/L	0.5	0.5	2.0	0.8	1.0	1.3	0.8	2.9	1.6
	2–Chloronaphthalene	ug/L	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
	Biphenyl	ug/L	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Bis(2–chloroethyl)ether	ug/L	1.4	1.4	1057.0	1.4	27.8	1.4	1.4	1.4	1.4
	Bis(2–chloroisopropyl)ether	ug/L	1.2	59.1	1.2	4.3	74.6	1.2	2.9	1.2	12.4
	Bis(2–ethylhexyl) phthalate	ug/L	1.1	0.7	16.9	0.6	0.4	2.5	0.6	0.7	1.0
	Di–n–butyl phthalate	ug/L	1.4	1.4	25.2	1.4	1.4	1.5	1.4	1.4	1.4
	N–Nitrosodi–n–propylamine	ug/L	1	1	351	2	9	2	1	1	1
	Naphthalene	ug/L	2.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	Phenanthrene	ug/L	0.1	0.3	0.1	0.1	0.1	0.3	0.1	0.1	0.1
	2,3,4,5–Tetrachlorophenol	ug/L	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	2,3,4–Trichlorophenol	ug/L	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	1,2,3,4–Tetrachlorobenzene	ng/L	3.4	5.8	1.0	1.5	1.8	4.0	2.8	11.0	5.8
	1,2,3,5–Tetrachlorobenzene	ng/L	2.6	5.5	1.0	1.3	2.0	3.0	2.2	3.2	3.0
	1,2,3–Trichlorobenzene	ng/L	5.8	8.5	1.0	2.0	2.0	7.0	4.6	7.0	7.0
	1,2,4,5–Tetrachlorobenzene	ng/L	5.8	4.5	1.0	2.0	41.8	7.0	4.6	7.0	7.0
	1,2,4–Trichlorobenzene	ng/L	15.2	6.3	1.0	2262.5	2.3	9.0	144.6	179.8	31.8
	2,4,5–Trichlorotoluene	ng/L	7.4	5.0	1.0	720.3	2.3	9.0	7.8	89.8	10.5
	Hexachlorobenzene	ng/L	3.4	31.5	198.0	934.8	1.3	6.0	8.6	33.5	14.5
	Hexachlorobutadiene	ng/L	9.0	3.0	1.0	118.2	1.7	8.5	171.2	105.2	16.0
	Hexachlorocyclopentadiene	ng/L	4.2	3.0	330.2	1.7	1.7	5.0	3.4	5.0	5.0

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PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500
	Hexachloroethane	ng/L	4.6	3.0	7013.5	201.2	1.7	6.5	10.2	124.2	10.8
	Octachlorostyrene	ng/L	8.6	5.0	1.0	2.3	2.3	9.0	7.4	19.8	11.7
	Pentachlorobenzene	ng/L	4.2	23.5	1.0	1.7	1.7	5.5	3.4	13.2	6.3
	Octachlorodibenzo–p–dioxin	pg/L	22.4	1665.0	22.4	112.0	49.1	22.4	22.4	22.4	166.0
	Octachlorodibenzofuran	pg/L	27.9	21613.0	711.0	214.0	281.0	27.9	27.9	27.9	311.0
	Total H6CDD	pg/L	3.0	430.0	3.0	3.0	3.7	3.0	3.0	3.0	3.0
	Total H6CDF	pg/L	7.1	11538.6	7.1	153.0	67.6	7.1	7.1	7.1	792.0
	Total H7CDD	pg/L	13.2	1101.0	13.2	13.2	13.2	13.2	13.2	13.2	78.9
	Total H7CDF	pg/L	10.7	17742.4	133.0	227.0	113.8	85.3	10.7	10.7	492.0
	Total PCDD	pg/L	9.9	115.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
	Total PCDF	pg/L	5.7	5190.0	5.7	47.9	26.8	5.7	5.7	5.7	467.0
	Total TCDD	pg/L	2.8	95.7	2.8	2.8	3.1	2.8	2.8	2.8	2.8
	Total TCDF	pg/L	3.4	2090.8	2609.0	44.2	215.8	4.1	3.4	3.4	135.0
	PCBT	ug/L	0.05	0.10	0.05	0.03	0.05	0.05	0.05	0.05	0.05
	Ftflow	m3/day	–	752	728	1188	9174	1258	137	63776	28755
	Volume Discharged – Total	m3	**	**	**	**	**	**	**	**	**

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	CO 0600	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300
o	DOC	mg/L	2.5	2.4	2.6	3.0	2.9	12.6	11.6
o	TOC	mg/L	2	2	2	2	2	12	12
o	COD	mg/L	6	26	9	–	–	–	–
o	Ammonia plus Ammonium	mg/L	0.03	0.04	0.03	–	–	–	–
o	Nitrate+Nitrite	mg/L	0.25	0.29	0.29	–	0.30	–	–
o	Total Kjeldahl nitrogen	mg/L	0.8	0.6	0.7	–	–	–	–
o	Total suspended solids	mg/L	7	6	7	5	18	29	20
o	VSS	mg/L	3	3	3	–	–	8	6
o	Total phosphorus	mg/L	0.1	0.1	0.2	0.1	0.1	0.7	0.5
o	Hydrogen ion (pH)		8.0	8.0	8.0	8.0	8.1	7.6	7.6
o	Specific conductance	uS/cm	216	203	2603	206	214	3215	1590
o	Oil and grease	mg/L	1.2	1.2	1.1	2.4	1.1	1.1	1.8
	Cyanide Total	mg/L	0.005	0.005	0.005	–	–	–	–
	Aluminum	ug/L	55.0	34.0	71.0	–	–	330.8	519.3
	Boron	ug/L	9.0	9.0	9.0	–	–	45.0	60.5
	Chromium	ug/L	6.0	3.0	6.0	–	–	39.4	6.8
	Copper	ug/L	3.0	3.5	7.0	–	–	8.4	8.6
	Lead	ug/L	24.0	24.0	36.0	–	–	24.0	21.9
	Molybdenum	ug/L	6.5	6.0	10.0	–	–	26.1	21.1
	Nickel	ug/L	6.0	6.0	18.0	–	–	6.4	6.6
	Vanadium	ug/L	17.0	16.5	5.0	–	–	57.3	57.1
	Zinc	ug/L	3.0	3.0	274.5	–	–	7.4	17.2
	Arsenic	ug/L	0.6	0.6	0.6	–	–	–	–
	Mercury	ug/L	0.10	0.09	0.09	–	0.09	0.14	0.32
	Phenolics (4AAP)	ug/L	3.8	8.5	8.8	4.7	7.0	27.4	6.6
	Sulphide	ug/L	40.0	50.0	45.0	–	–	–	–
	1,1,2,2–Tetrachloroethane	ug/L	0.9	0.8	0.8	0.8	0.8	–	–
	1,1,2–Trichloroethane	ug/L	2.1	0.3	0.3	0.3	0.3	–	–
	1,1–Dichloroethane	ug/L	0.3	0.3	0.3	0.3	0.3	–	–
	1,1–Dichloroethylene	ug/L	0.5	0.5	0.5	0.5	0.5	–	–
	1,2–Dichloroethane	ug/L	13.4	0.5	1.4	0.5	11.3	–	–
	1,2–Dichloropropane	ug/L	6.8	0.3	0.3	0.3	0.3	–	–

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PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	CO 0600	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300
	Bromodichloromethane	ug/L	0.3	0.3	0.3	0.3	0.3	–	–
	Bromoform	ug/L	0.6	0.5	0.5	0.6	0.5	–	–
	Carbon tetrachloride	ug/L	1.7	1.5	1.3	1.3	1.3	–	–
	Chloroform	ug/L	0.7	0.5	0.5	0.6	0.6	–	–
	Chloromethane	ug/L	18.3	14.4	10.6	21.5	6.1	–	–
	Methylene chloride	ug/L	4.2	0.4	0.4	0.4	0.4	–	–
	Tetrachloroethylene	ug/L	1.4	0.8	0.8	1.1	3.0	–	–
	Trichloroethylene	ug/L	0.7	0.5	0.5	0.5	0.5	–	–
	Vinyl chloride	ug/L	0.9	2.4	2.0	0.9	1.5	–	–
	Benzene	ug/L	0.6	0.3	0.3	–	0.2	–	–
	Ethylbenzene	ug/L	0.3	0.6	0.9	–	–	–	–
	2,6–Dinitrotoluene	ug/L	0.9	3.5	1.9	–	–	–	–
	2–Chloronaphthalene	ug/L	2.8	2.8	2.8	–	–	–	–
	Biphenyl	ug/L	1.0	1.0	1.0	–	–	–	–
	Bis(2–chloroethyl)ether	ug/L	1.4	1.4	1.4	–	–	–	–
	Bis(2–chloroisopropyl)ether	ug/L	3.1	1.2	5.0	–	–	–	–
	Bis(2–ethylhexyl) phthalate	ug/L	1.6	0.9	0.5	–	–	–	–
	Di–n–butyl phthalate	ug/L	3.0	1.4	1.4	–	–	–	–
	N–Nitrosodi–n–propylamine	ug/L	1	1	5	–	–	–	–
	Naphthalene	ug/L	2.2	2.2	2.2	–	–	–	–
	Phenanthrene	ug/L	0.1	0.1	0.1	–	–	–	–
	2,3,4,5–Tetrachlorophenol	ug/L	0.5	0.5	0.5	–	0.4	–	–
	2,3,4–Trichlorophenol	ug/L	0.7	0.7	0.7	–	0.2	–	–
	1,2,3,4–Tetrachlorobenzene	ng/L	4.8	4.2	7.3	4.0	–	–	–
	1,2,3,5–Tetrachlorobenzene	ng/L	3.0	3.0	3.0	3.0	–	–	–
	1,2,3–Trichlorobenzene	ng/L	7.2	7.0	8.0	7.0	–	–	–
	1,2,4,5–Tetrachlorobenzene	ng/L	7.0	7.0	7.0	7.0	–	–	–
	1,2,4–Trichlorobenzene	ng/L	41.2	14.8	13.7	21.2	–	–	–
	2,4,5–Trichlorotoluene	ng/L	11.3	9.0	16.0	9.3	–	–	–
	Hexachlorobenzene	ng/L	4.5	4.0	3.3	12.7	–	–	–
	Hexachlorobutadiene	ng/L	19.0	6.7	7.3	15.0	–	–	--
	Hexachlorocyclopentadiene	ng/L	5.0	5.0	5.0	5.0	–	–	–

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	UNIT	CO 0600	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300
	Hexachloroethane	ng/L	8.2	5.3	7.0	8.0	–	–	–
	Octachlorostyrene	ng/L	10.3	13.8	9.7	9.3	–	–	–
	Pentachlorobenzene	ng/L	5.2	5.0	5.0	5.0	–	–	–
	Octachlorodibenzo–p–dioxin	pg/L	22.4	22.4	22.4	–	–	–	–
	Octachlorodibenzofuran	pg/L	27.9	27.9	27.9	–	–	–	–
	Total H6CDD	pg/L	3.0	3.0	3.0	–	–	–	–
	Total H6CDF	pg/L	7.1	7.1	7.1	–	–	–	–
	Total H7CDD	pg/L	13.2	13.2	13.2	–	–	–	–
	Total H7CDF	pg/L	10.7	10.7	10.7	–	–	–	–
	Total PCDD	pg/L	9.9	9.9	9.9	–	–	–	–
	Total PCDF	pg/L	5.7	5.7	5.7	–	–	–	–
	Total TCDD	pg/L	2.8	2.8	2.8	–	–	–	–
	Total TCDF	pg/L	3.4	3.4	3.4	–	–	–	–
	PCBT	ug/L	0.05	0.05	0.05	–	–	–	–
	Ftflow	m3/day	55814	103196	568909	57332	12370	**	**
	Volume Discharged – Total	m3	**	**	**	**	**	5072	1534

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'**' parameter does not pertain to this stream
'o' – conventional parameter

SAMPLING POINTS
IN 0100 – Intake Water to Site
PR 1200 – Throx Stripper Effluent flows into CO 0500
PR 1600 – Block 90 Feed (Building 88) flows into CO 0900
PR 1700 – Block 90 Feed (Buildings 35 & 39) flows into CO 0900
PR 1900 – Biox Plant Effluent flows into CO 0900
PR 2000 – Boiler Feedwater Effluent flows into CO 0900
PR 2100 – Scott Road Treated Runoff to River
CO 0200 – 42 inch Outfall to River
CO 0500 – 54 inch Sluice Outfall to River
CO 0600 – 2nd Street Outfall to River
CO 0700 – 3rd Street Outfall to River
CO 0900 – 4th Street Outfall to River
OT 0300 – 48 inch Outfall to River
OT 1000 – 5th Street Outfall to River
WA 2200 – Lasalle Road Runoff to River
WA 2300 – Lasalle Road Runoff to River

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PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500	CO 0600
o	DOC	2016.135	2.197	5.849	11.120	58.016	5.277	6.137	156.335	73.656	139.233
o	TOC	1753.519	2.205	6.035	11.062	66.848	5.294	6.578	132.842	65.250	127.541
o	COD	5117.311	54.405	6.262	68.382	4524.170	108.188	–	375.468	178.691	363.745
o	Ammonia plus Ammonium	20.581	0.015	0.005	0.041	78.207	0.065	–	1.510	2.719	1.463
o	Nitrate+Nitrite	651.189	8.220	0.011	0.320	0.297	3.234	–	15.607	10.775	14.580
o	Total Kjeldahl nitrogen	426.443	0.409	0.061	0.435	10.892	1.761	–	61.667	45.931	46.572
o	Total suspended solids	3842.099	12.115	55.303	28.329	523.932	24.160	0.895	383.729	190.613	428.703
o	VSS	3728.491	2.925	3.636	21.222	175.556	5.032	–	181.211	86.241	175.553
o	Total phosphorus	60.920	0.092	4.991	0.263	4.167	0.087	0.043	4.631	1.588	4.816
o	Oil and grease	1702.477	0.838	0.985	1.385	34.518	1.423	10.870	94.529	41.379	67.456
	Cyanide Total	3.293	0.003	0.001	0.006	0.048	0.006	–	0.302	0.144	0.293
	Aluminum	23.463	0.039	0.618	0.083	6.221	0.138	0.013	3.247	5.184	3.199
	Boron	7.409	0.005	0.018	0.014	0.060	0.028	0.636	0.581	0.266	0.527
	Chromium	3.705	0.004	0.029	0.014	0.054	0.004	*	0.181	0.108	0.371
	Copper	2.470	0.005	0.188	0.027	0.099	0.008	*	0.181	0.129	0.176
	Lead	19.758	0.026	0.357	0.186	0.318	0.611	0.004	1.450	0.690	1.404
	Molybdenum	4.939	0.007	0.007	0.011	0.311	0.021	0.003	0.362	0.237	0.385
	Nickel	4.939	0.012	0.084	0.363	0.216	0.008	0.001	0.362	0.172	0.351
	Vanadium	13.584	0.003	0.007	0.005	0.124	0.052	0.004	0.966	0.459	0.985
	Zinc	2.470	0.015	0.694	0.068	0.115	0.005	*	0.181	0.094	0.176
	Arsenic	0.494	*	*	0.001	0.006	0.001	*	0.036	0.017	0.035
	Mercury	0.060	*	*	*	0.001	*	*	0.006	0.005	0.005
	Phenolics (4AAP)	5.785	0.007	0.001	0.008	0.609	0.069	0.001	0.437	0.113	0.237
	Sulphide	45.279	0.059	0.008	0.071	2.493	0.063	–	2.870	1.514	2.341
	1,1,2,2–Tetrachloroethane	0.594	0.001	*	0.020	0.007	0.001	*	0.053	0.024	0.049
	1,1,2–Trichloroethane	0.200	*	*	0.196	0.002	–	0.002	0.043	0.009	0.105
	1,1–Dichloroethane	0.203	*	*	0.374	0.002	*	0.003	0.076	0.009	0.019
	1,1–Dichloroethylene	0.327	*	0.021	0.030	0.019	*	*	0.032	0.014	0.028
	1,2–Dichloroethane	0.368	*	*	1.277	0.024	0.001	*	0.697	0.020	0.692

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PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500	CO 0600
	1,2–Dichloropropane	0.177	*	*	0.044	0.044	*	*	0.474	0.109	0.367
	Bromodichloromethane	0.217	*	*	*	0.003	*	*	0.018	0.008	0.017
	Bromoform	0.395	*	*	0.015	0.004	*	*	0.033	0.017	0.033
	Carbon tetrachloride	0.787	0.001	0.163	0.008	0.013	0.001	*	1.783	0.038	0.094
	Chloroform	0.311	0.001	0.012	0.008	0.003	*	*	0.077	0.017	0.038
	Chloromethane	16.588	0.001	0.001	0.003	0.013	0.006	*	0.631	0.685	1.040
	Methylene chloride	0.278	*	*	0.074	0.003	*	*	0.028	0.012	0.248
	Tetrachloroethylene	0.597	0.001	0.044	0.063	0.010	0.001	*	2.491	0.116	0.078
	Trichloroethylene	0.328	*	*	0.028	0.004	0.001	*	0.227	0.013	0.034
	Vinyl chloride	3.060	0.001	*	0.020	0.007	0.001	*	0.109	0.027	0.051
	Benzene	0.389	*	*	*	0.005	*	–	0.017	0.006	0.035
	Ethylbenzene	0.310	*	*	*	0.006	0.001	–	0.027	0.006	0.018
	2,6–Dinitrotoluene	0.412	*	*	0.001	0.013	0.003	–	0.139	0.030	0.053
	2–Chloronaphthalene	2.305	0.002	0.001	0.003	0.026	0.004	–	0.169	0.080	0.164
	Biphenyl	0.823	0.001	*	0.001	0.009	0.001	–	0.060	0.029	0.059
	Bis(2–chloroethyl)ether	1.153	0.001	0.214	0.002	0.235	0.002	–	0.085	0.040	0.082
	Bis(2–chloroisopropyl)ether	0.988	0.068	–	0.004	0.841	0.002	–	0.072	0.202	0.175
	Bis(2–ethylhexyl) phthalate	0.864	*	0.003	0.001	0.004	*	–	0.034	0.029	0.105
	Di–n–butyl phthalate	1.153	0.001	0.005	0.002	0.013	0.001	–	0.085	0.040	0.188
	N–Nitrosodi–n–propylamine	0.741	0.001	0.071	0.003	0.136	0.003	–	0.066	0.026	0.053
	Naphthalene	1.811	0.002	*	0.003	0.021	0.003	–	0.133	0.063	0.129
	Phenanthrene	0.082	*	*	*	0.001	*	–	0.006	0.003	0.006
	2,3,4,5–Tetrachlorophenol	0.317	*	*	0.001	0.005	0.001	*	0.030	0.014	0.029
	2,3,4–Trichlorophenol	0.445	0.001	*	0.001	0.007	0.001	*	0.042	0.020	0.041
	1,2,3,4–Tetrachlorobenzene	0.003	*	*	*	*	*	*	0.001	*	*
	1,2,3,5–Tetrachlorobenzene	0.002	*	*	*	*	*	*	*	*	*
	1,2,3–Trichlorobenzene	0.005	*	*	*	*	*	*	*	*	*
	1,2,4,5–Tetrachlorobenzene	0.005	*	*	*	*	*	*	*	*	*
	1,2,4–Trichlorobenzene	0.013	*	*	0.001	*	*	*	0.012	0.001	0.002

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	IN 0100	PR 1200	PR 1600	PR 1700	PR 1900	PR 2000	PR 2100	CO 0200	CO 0500	CO 0600
	2,4,5–Trichlorotoluene	0.006	*	*	0.001	*	*	*	0.006	*	0.001
	Hexachlorobenzene	0.003	*	*	0.001	*	*	*	0.002	*	*
	Hexachlorobutadiene	0.007	*	*	*	*	*	*	0.007	*	0.001
	Hexachlorocyclopentadiene	0.003	*	*	*	*	*	*	*	*	*
	Hexachloroethane	0.004	*	0.002	*	*	*	*	0.008	*	*
	Octachlorostyrene	0.007	*	*	*	*	*	*	0.001	*	0.001
	Pentachlorobenzene	0.003	*	*	*	*	*	*	0.001	*	*
	Octachlorodibenzo–p–dioxin	*	*	–	–	*	–	–	*	*	*
	Octachlorodibenzofuran	*	*	–	–	*	–	–	*	*	*
	Total H6CDD	*	*	–	–	*	–	–	*	*	*
	Total H6CDF	*	*	–	–	*	–	–	*	*	*
	Total H7CDD	*	*	–	–	*	–	–	*	*	*
	Total H7CDF	*	*	–	–	*	–	–	*	*	*
	Total PCDD	*	*	–	–	*	–	–	*	*	*
	Total PCDF	*	*	–	–	*	–	–	*	*	*
	Total TCDD	*	*	–	–	*	–	–	*	*	*
	Total TCDF	*	*	–	–	*	–	–	*	*	*
	PCBT	0.040	*	*	*	*	*	*	0.003	0.001	0.003

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300	TOTAL
o	DOC	251.163	1470.354	172.189	36.383	69.751	19.464	2394.665
o	TOC	224.034	1356.712	110.580	28.210	70.343	19.720	2141.810
o	COD	3088.904	5327.222	–	–	–	–	9334.030
o	Ammonia plus Ammonium	3.513	14.235	–	–	–	–	23.440
o	Nitrate+Nitrite	31.426	167.084	–	3.564	–	–	243.036
o	Total Kjeldahl nitrogen	68.497	407.111	–	–	–	–	629.778
o	Total suspended solids	652.177	3601.023	270.249	201.599	255.718	31.394	6016.100
o	VSS	337.793	1839.960	–	–	57.082	10.430	2688.270
o	Total phosphorus	13.094	98.732	3.576	1.062	1.236	1.114	129.892
o	Oil and grease	128.795	648.180	130.570	13.651	5.284	3.448	1144.162
	Cyanide Total	0.532	2.847	–	–	–	–	4.118
	Aluminum	3.659	44.305	–	–	2.041	0.793	62.441
	Boron	1.013	5.520	–	–	0.217	0.103	8.863
	Chromium	0.338	3.680	–	–	0.416	0.011	5.105
	Copper	0.399	4.293	–	–	0.042	0.012	5.232
	Lead	2.702	22.080	–	–	0.122	0.035	28.487
	Molybdenum	0.676	6.133	–	–	0.108	0.036	7.940
	Nickel	0.676	11.040	–	–	0.030	0.011	12.643
	Vanadium	1.842	3.047	–	–	0.214	0.093	7.610
	Zinc	0.338	173.758	–	–	0.032	0.029	174.608
	Arsenic	0.068	0.368	–	–	–	–	0.524
	Mercury	0.009	0.052	–	0.001	0.001	0.001	0.080
	Phenolics (4AAP)	0.836	4.829	0.269	0.086	0.111	0.010	6.929
	Sulphide	5.736	27.699	–	–	–	–	40.160
	1,1,2,2–Tetrachloroethane	0.087	0.462	0.048	0.010	–	–	0.733
	1,1,2–Trichloroethane	0.034	0.178	0.019	0.004	–	–	0.394
	1,1–Dichloroethane	0.034	0.178	0.019	0.004	–	–	0.342
	1,1–Dichloroethylene	0.050	0.266	0.030	0.005	–	–	0.425
	1,2–Dichloroethane	0.052	0.867	0.027	0.133	–	–	2.488

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300	TOTAL
	1,2–Dichloropropane	0.027	0.146	0.015	0.003	–	–	1.141
	Bromodichloromethane	0.032	0.171	0.018	0.004	–	–	0.268
	Bromoform	0.060	0.316	0.034	0.006	–	–	0.499
	Carbon tetrachloride	0.151	0.732	0.071	0.016	–	–	2.885
	Chloroform	0.058	0.305	0.034	0.007	–	–	0.536
	Chloromethane	1.667	6.501	1.181	0.072	–	–	11.777
	Methylene chloride	0.044	0.235	0.025	0.005	–	–	0.597
	Tetrachloroethylene	0.083	0.459	0.063	0.036	–	–	3.326
	Trichloroethylene	0.049	0.260	0.027	0.006	–	–	0.616
	Vinyl chloride	0.252	1.191	0.052	0.019	–	–	1.701
	Benzene	0.029	0.194	–	0.003	–	–	0.284
	Ethylbenzene	0.067	0.550	–	0.005	–	–	0.673
	2,6–Dinitrotoluene	0.420	1.193	–	–	–	–	1.835
	2–Chloronaphthalene	0.315	1.717	–	–	–	–	2.445
	Biphenyl	0.113	0.613	–	–	–	–	0.874
	Bis(2–chloroethyl)ether	0.158	0.859	–	–	–	–	1.224
	Bis(2–chloroisopropyl)ether	0.135	3.142	–	–	–	–	3.726
	Bis(2–ethylhexyl) phthalate	0.107	0.287	–	–	–	–	0.562
	Di–n–butyl phthalate	0.158	0.859	–	–	–	–	1.330
	N–Nitrosodi–n–propylamine	0.101	0.552	–	–	–	–	0.798
	Naphthalene	0.248	1.349	–	–	–	–	1.922
	Phenanthrene	0.011	0.061	–	–	–	–	0.087
	2,3,4,5–Tetrachlorophenol	0.053	0.285	*	0.005	–	–	0.416
	2,3,4–Trichlorophenol	0.075	0.399	*	0.002	–	–	0.579
	1,2,3,4–Tetrachlorobenzene	*	0.004	*	–	–	–	0.005
	1,2,3,5–Tetrachlorobenzene	*	0.002	*	–	–	–	0.002
	1,2,3–Trichlorobenzene	0.001	0.004	*	–	–	–	0.005
	1,2,4,5–Tetrachlorobenzene	0.001	0.004	*	–	–	–	0.005
	1,2,4–Trichlorobenzene	0.002	0.008	0.001	–	–	–	0.026

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DOW CHEMICAL CANADA INC. – SARNIA

	PARAMETER	CO 0700	CO 0900	OT 0300	OT 1000	WA 2200	WA 2300	TOTAL
	2,4,5–Trichlorotoluene	0.001	0.010	0.001	–	–	–	0.019
	Hexachlorobenzene	*	0.002	0.001	–	–	–	0.005
	Hexachlorobutadiene	0.001	0.004	0.001	–	–	–	0.014
	Hexachlorocyclopentadiene	0.001	0.003	*	–	–	–	0.004
	Hexachloroethane	0.001	0.004	*	–	–	–	0.013
	Octachlorostyrene	0.001	0.006	0.001	–	–	–	0.010
	Pentachlorobenzene	0.001	0.003	*	–	–	–	0.005
	Octachlorodibenzo–p–dioxin	*	*	–	–	–	–	*
	Octachlorodibenzofuran	*	*	–	–	–	–	*
	Total H6CDD	*	*	–	–	–	–	*
	Total H6CDF	*	*	–	–	–	–	*
	Total H7CDD	*	*	–	–	–	–	*
	Total H7CDF	*	*	–	–	–	–	*
	Total PCDD	*	*	–	–	–	–	*
	Total PCDF	*	*	–	–	–	–	*
	Total TCDD	*	*	–	–	–	–	*
	Total TCDF	*	*	–	–	–	–	*
	PCBT	0.006	0.030	–	–	–	–	0.043

EXPLANATORY NOTES:
'–' not required in the regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0100 – Intake Water to Site
PR 1200 – Throx Stripper Effluent flows into CO 0500
PR 1600 – Block 90 Feed (Building 88) flows into CO 0900
PR 1700 – Block 90 Feed (Building 35 & 39) flow into CO 0900
PR 1900 – Biox Plant Effluent flows onto CO 0900
PR 2000 – Boiler Feedwater Effluent flows into CO 0900
PR 2100 – Scott Road Treated Runoff to River
CO 0200 – 42 inch Outfall to River

CO 0500 – 54 inch Sluice Outfall to River
CO 0600 – 2nd Street Outfall to River
CO 0700 – 3rd Street Outfall to River
CO 0900 – 4th Street Outfall to River
OT 0300 – 48 inch Outfall to River
OT 1000 – 5th Street Outfall to River
WA 2200 – Lasalle Road Runoff to River
WA 2300 – Lasalle Road Runoff to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – DU PONT CANADA INC. – CORUNNA

	PARAMETER	UNIT	IN 0100	CO 0200	CO 0400
o	DOC	mg/L	3.5	3.8	3.6
o	TOC	mg/L	3	5	4
o	COD	mg/L	14	21	86
o	Ammonia plus Ammonium	mg/L	0.20	0.10	0.03
o	Nitrate+Nitrite	mg/L	0.30	0.35	0.41
o	Total Kjeldahl nitrogen	mg/L	0.7	0.5	0.5
o	Total suspended solids	mg/L	7	8	12
o	VSS	mg/L	4	8	13
o	Total phosphorus	mg/L	0.1	0.1	0.1
o	Hydrogen ion (pH)		7.9	7.9	7.9
o	Specific conductance	uS/cm	278	293	326
o	Oil and grease	mg/L	1.5	1.7	1.8
	Aluminum	ug/L	152.2	273.0	291.7
	Copper	ug/L	3.2	6.8	13.2
	Zinc	ug/L	8.8	15.7	28.5
	Phenolics (4AAP)	ug/L	1.9	2.9	2.8
	Toluene	ug/L	0.4	3.0	4.5
	Ftflow	m3/day	45110	49943	11187

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0100 – Intake Water to Site
CO 0200 – Final Effluent to River
CO 0400 – Pellet Pond Effluent flows into CO 0200

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – DU PONT CANADA INC. – CORUNNA

	PARAMETER	IN 0100	CO 0200	CO 0400	TOTAL
o	DOC	160.711	185.727	38.910	185.727
o	TOC	126.118	214.035	46.302	214.035
o	COD	611.800	1213.800	971.800	1213.800
o	Ammonia plus Ammonium	4.559	4.823	0.282	4.823
o	Nitrate+Nitrite	13.110	20.230	4.633	20.230
o	Total Kjeldahl nitrogen	28.366	23.813	5.650	23.813
o	Total suspended solids	307.356	393.003	133.581	393.003
o	VSS	152.950	462.400	146.900	462.400
o	Total phosphorus	4.445	4.134	1.208	4.134
o	Oil and grease	70.905	81.909	22.803	81.909
	Aluminum	6.805	14.471	3.134	14.471
	Copper	0.128	0.343	0.134	0.343
	Zinc	0.391	0.820	0.295	0.820
	Phenolics (4AAP)	0.093	0.148	0.032	0.148
	Toluene	0.018	0.129	0.041	0.129

EXPLANATORY NOTES:
'o' – conventional parameter

SAMPLING POINTS:
IN 0100 – Intake Water to Site
CO 0200 – Final Effluent to River
CO 0400 – Pellet Pond Effluent flows into CO 0200

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – ESSO CHEMICAL CANADA – SARNIA

	PARAMETER	UNIT	IN 0100	PR 0200	CO 0300
o	DOC	mg/L	2.5	4.9	7.7
o	TOC	mg/L	3	5	8
o	COD	mg/L	9	42	40
o	Ammonia plus Ammonium	mg/L	0.10	0.10	0.10
o	Nitrate+Nitrite	mg/L	0.32	0.42	0.30
o	Total Kjeldahl nitrogen	mg/L	0.2	0.3	0.2
o	Total suspended solids	mg/L	11	6	6
o	VSS	mg/L	3	4	8
o	Total phosphorus	mg/L	0.02	0.02	0.02
o	Hydrogen ion (pH)		8.1	7.8	8.0
o	Specific conductance	uS/cm	174	278	219
o	Oil and grease	mg/L	1.1	1.2	1.4
	Cyanide Total	mg/L	0.005	0.023	0.010
	Aluminum	ug/L	163.3	93.3	58.3
	Copper	ug/L	17.0	23.1	29.8
	Zinc	ug/L	6.6	23.7	25.0
	Bromodichloromethane	ug/L	0.2	0.2	0.9
	Chloroform	ug/L	0.2	0.6	2.5
	Benzene	ug/L	0.3	2.1	1.9
	Toluene	ug/L	0.3	5.3	9.9
	m–Xylene and p–Xylene	ug/L	0.2	8.6	8.6
	o–Xylene	ug/L	0.2	4.3	4.4
	Bis(2–ethylhexyl) phthalate	ug/L	8.0	2.0	5.1
	2,3,4,5–Tetrachlorophenol	ug/L	0.5	0.5	0.5
	2,3,4–Trichlorophenol	ug/L	0.7	0.7	0.7
	2,4,5–Trichlorotoluene	ng/L	5.0	5.0	7.5
	Hexachlorobutadiene	ng/L	5.0	181.5	35.0
	Hexachloroethane	ng/L	5.0	70.0	16.0
	Ftflow	m3/day	–	1979	28243

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
IN 0100 – Intake Water to Site
PR 0200 – Carbon Contactor Effluent flows into CO 0300
CO 0300 – Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – ESSO CHEMICAL CANADA – SARNIA

	PARAMETER	IN 0100	PR 0200	CO 0300	TOTAL
o	DOC	71.173	10.137	217.337	217.337
o	TOC	81.651	10.829	231.986	231.986
o	COD	240.066	95.053	1028.360	1028.360
o	Ammonia plus Ammonium	2.824	0.247	2.600	2.600
o	Nitrate+Nitrite	9.038	1.061	7.695	7.695
o	Total Kjeldahl nitrogen	6.213	0.796	5.982	5.982
o	Total suspended solids	297.428	12.723	186.830	186.830
o	VSS	90.378	8.434	198.151	198.151
o	Total phosphorus	0.593	0.049	0.649	0.649
o	Oil and grease	30.079	2.167	39.765	39.765
	Cyanide Total	0.141	0.046	0.274	0.274
	Aluminum	4.613	0.182	1.608	1.608
	Copper	0.479	0.045	0.863	0.863
	Zinc	0.188	0.049	0.738	0.738
	Bromodichloromethane	0.006	*	0.026	0.026
	Chloroform	0.006	0.001	0.069	0.069
	Benzene	0.007	0.008	0.052	0.052
	Toluene	0.007	0.018	0.295	0.295
	m–Xylene and p–Xylene	0.006	0.028	0.253	0.253
	o–Xylene	0.006	0.014	0.126	0.126
	Bis(2–ethylhexyl) phthalate	0.226	0.005	0.133	0.133
	2,3,4,5–Tetrachlorophenol	0.013	0.001	0.012	0.012
	2,3,4–Trichlorophenol	0.020	0.002	0.018	0.018
	2,4,5–Trichlorotoluene	*	*	*	*
	Hexachlorobutadiene	*	*	0.001	0.001
	Hexachloroethane	*	*	*	*

EXPLANATORY NOTES:
'–' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0100 – Intake Water to Site
PR 0200 – Carbon Contactor Effluent flows into CO 0300
CO 0300 – Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90
PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – ETHYL CANADA INC. – CORUNNA

	PARAMETER	UNIT	IN 0800	PR 0200	PR 0300	CO 0100
o	DOC	mg/L	–	5.3	14.3	**2.0**
o	TOC	mg/L	–	11	20	**4**
o	COD	mg/L	–	275	1600	**35**
o	Ammonia plus Ammonium	mg/L	–	0.05	0.74	**0.61**
o	Nitrate+Nitrite	mg/L	–	2.86	0.20	**0.40**
o	Total Kjeldahl nitrogen	mg/L	–	0.7	1.5	**1.5**
o	Total suspended solids	mg/L	–	12	45	**11**
o	VSS	mg/L	–	18	11	**8**
o	Total phosphorus	mg/L	–	0.1	0.1	**0.3**
o	Hydrogen ion (pH)		–	3.5	9.1	**7.9**
o	Specific conductance	uS/cm	–	16293	99535	**3181**
o	Oil and grease	mg/L	–	6.2	4.3	**1.6**
	Aluminum	ug/L	–	15720.3	21733.5	**3536.7**
	Boron	ug/L	–	25.2	2600.0	**69.2**
	Chromium	ug/L	–	59.7	6.8	**3.3**
	Copper	ug/L	–	126.7	7.3	**13.3**
	Lead	ug/L	–	398.7	21924.2	**590.1**
	Nickel	ug/L	–	134.8	9.5	**9.0**
	Thallium	ug/L	–	51.5	15.0	**10.0**
	Zinc	ug/L	–	113.7	85.0	**24.8**
	Mercury	ug/L	–	0.24	0.23	**0.41**
	Tetra–alkyl lead (Total)	ug/L	–	3.6	46.7	**4.5**
	Tri–alkyl lead (Total)	ug/L	–	216.5	476.4	**28.9**
	Phenolics (4AAP)	ug/L	–	10.0	261.9	**7.8**
	Sulphide	ug/L	–	120.0	155.0	**30.0**
	1,1–Dichloroethane	ug/L	–	2355.8	2.4	**224.0**
	1,2–Dichloroethane	ug/L	–	80.7	221.5	**145.2**
	Chloroform	ug/L	–	24.9	8.3	**32.1**
	Chloromethane	ug/L	–	425.8	140.1	**34.0**
	Ethylene dibromide	ug/L	–	61.5	122.9	**5.7**
	Methylene chloride	ug/L	–	1363.0	1571.0	**83.5**
	Toluene	ug/L	–	0.4	241.8	**31.2**
	1–Methylnaphthalene	ug/L	–	2.2	23.4	**2.2**
	2–Methylnaphthalene	ug/L	–	1.5	10.3	**1.5**
	Biphenyl	ug/L	–	0.4	4.1	**0.4**
	Bis(2–chloroethoxy)methane	ug/L	–	1.3	1.3	**1.3**
	Di–n–octyl phthalate	ug/L	–	0.8	1.2	**0.8**
	Indole	ug/L	–	1.2	518.8	**6.1**
	2,3,4,5–Tetrachlorophenol	ug/L	–	0.9	0.4	**0.4**
	Phenol	ug/L	–	1.1	38.0	**1.1**
	m–Cresol	ug/L	–	3.0	5.7	**3.0**
	o–Cresol	ug/L	–	1.7	6.5	**1.7**
	p–Cresol	ug/L	–	3.5	5.7	**3.5**
	Ftflow	m3/day	–	179	590	**33891**

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter
SAMPLING POINTS
IN 0800 – Intake Water to Site
PR 0200 – Neutralization Pit Effluent flows into CO 0100
CO 0100 – Final Effluent to River
PR 0300 – TEL Process Effluent flows into CO 0100

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90
PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – ETHYL CANADA INC. – CORUNNA

	PARAMETER	IN 0800	PR 0200	PR 0300	CO 0100	TOTAL
o	DOC	–	0.932	7.655	66.172	66.172
o	TOC	–	2.074	10.615	110.313	110.313
o	COD	–	59.800	793.600	1373.279	1373.279
o	Ammonia plus Ammonium	–	0.009	0.367	22.474	22.474
o	Nitrate+Nitrite	–	0.505	0.099	14.469	14.469
o	Total Kjeldahl nitrogen	–	0.126	0.734	57.057	57.057
o	Total suspended solids	–	2.425	29.349	368.224	368.224
o	VSS	–	3.635	5.580	301.347	301.347
o	Total phosphorus	–	0.017	0.072	9.256	9.256
o	Oil and grease	–	1.104	2.808	54.177	54.177
	Aluminum	–	3.129	13.616	131.371	131.371
	Boron	–	0.005	1.802	2.562	2.562
	Chromium	–	0.011	0.005	0.126	0.126
	Copper	–	0.022	0.005	0.484	0.484
	Lead	–	0.080	16.564	20.011	20.011
	Nickel	–	0.024	0.007	0.346	0.346
	Thallium	–	0.009	0.010	0.385	0.385
	Zinc	–	0.021	0.055	0.913	0.913
	Mercury	–	*	*	0.015	0.015
	Tetra–alkyl lead (Total)	–	0.001	0.034	0.151	0.151
	Tri–alkyl lead (Total)	–	0.056	0.298	1.035	1.035
	Phenolics (4AAP)	–	0.002	0.124	0.294	0.294
	Sulphide	–	0.027	0.077	1.233	1.233
	1,1–Dichloroethane	–	0.557	0.001	7.908	7.908
	1,2–Dichloroethane	–	0.017	0.108	5.809	5.809
	Chloroform	–	0.006	0.011	1.099	1.099
	Chloromethane	–	0.078	0.068	1.347	1.347
	Ethylene dibromide	–	0.015	0.054	0.217	0.217
	Methylene chloride	–	0.316	0.803	2.879	2.879
	Toluene	–	*	0.201	1.142	1.142
	1–Methylnaphthalene	–	*	0.015	0.085	0.085
	2–Methylnaphthalene	–	*	0.007	0.058	0.058
	Biphenyl	–	*	0.002	0.015	0.015
	Bis(2–chloroethoxy)methane	–	*	0.001	0.050	0.050
	Di–n–octyl phthalate	–	*	0.001	0.031	0.031
	Indole	–	*	0.347	0.225	0.225
	2,3,4,5–Tetrachlorophenol	–	*	*	0.016	0.016
	Phenol	–	*	0.019	0.044	0.044
	m–Cresol	–	0.001	0.003	0.120	0.120
	o–Cresol	–	*	0.003	0.068	0.068
	p–Cresol	–	0.001	0.003	0.140	0.140

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0800 – Intake Water to Site
CO 0100 – Final Effluent to River
PR 0200 – Neutralization Pit Effluent flows into CO 0100
PR 0300 – TEL Process Effluent flows into CO 0100

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – NOVACOR CHEMICALS LTD. – MOORETOWN

	PARAMETER	UNIT	IN 0600	CO 0100
o	DOC	mg/L	0.8	**4.7**
o	TOC	mg/L	1	**6**
o	COD	mg/L	9	**12**
o	Ammonia plus Ammonium	mg/L	0.03	**0.42**
o	Nitrate+Nitrite	mg/L	0.20	**0.57**
o	Total Kjeldahl nitrogen	mg/L	0.2	**1.0**
o	Total suspended solids	mg/L	5	**14**
o	VSS	mg/L	–	**4**
o	Total phosphorus	mg/L	0.1	**0.4**
o	Hydrogen ion (pH)		7.8	**8.1**
o	Specific conductance	uS/cm	225	**652**
o	Oil and grease	mg/L	1.0	**1.3**
	Aluminum	ug/L	60.0	**683.3**
	Zinc	ug/L	9.0	**51.9**
	Ftflow	m3/day	–	**1574**

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0600 – Intake Water to Site
CO 0100 – Final Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – NOVACOR CHEMICALS LTD. – MOORETOWN

	PARAMETER	IN 0600	CO 0100	TOTAL
o	DOC	1.286	7.384	7.384
o	TOC	0.787	8.720	8.720
o	COD	14.322	18.504	18.504
o	Ammonia plus Ammonium	0.039	0.648	0.648
o	Nitrate+Nitrite	0.315	0.879	0.879
o	Total Kjeldahl nitrogen	0.252	1.542	1.542
o	Total suspended solids	7.318	22.904	22.904
o	VSS	–	6.580	6.580
o	Total phosphorus	0.109	0.629	0.629
o	Oil and grease	1.511	1.982	1.982
	Aluminum	0.094	1.105	1.105
	Zinc	0.005	0.083	0.083

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – Intake Water to Site
CO 0100 – Final Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – POLYSAR LTD. – SARNIA

	PARAMETER	UNIT	IN 2400	PR 0300	PR 0900	PR 1800	CO 0200	CO 0400	CO 0500	OT 1400	BA 1700	CO 1100 @@
o	DOC	mg/L	3.9	5.1	13.2	19.5	3.9	3.9	3.8	4.3	9.6	4.4
o	TOC	mg/L	3.0	5	14	18	7	2	4	–	7	4
o	COD	mg/L	20	13	27	63	10	10	30	–	22	10
o	Ammonia plus Ammonium	mg/L	0.2	0.16	0.20	1.79	0.14	0.13	0.07	–	1.40	0.11
o	Nitrate+Nitrite	mg/L	0.4	0.06	0.05	1.73	0.34	0.32	0.30	–	3.00	0.43
o	Total Kjeldahl nitrogen	mg/L	0.6	0.2	0.6	2.8	0.3	0.2	0.2	–	1.1	0.2
o	Total suspended solids	mg/L	6.0	41	26	15	5	4	4	5	11	5
o	VSS	mg/L	4	6	4	8	4	4	4	–	5	4
o	Total phosphorus	mg/L	0.1	0.2	0.3	0.8	0.1	0.1	0.1	0.1	0.1	0.1
o	Hydrogen ion (pH)		8.1	7.6	7.5	7.6	8.1	8.1	8.3	8.1	7.6	8.1
o	Specific conductance	uS/cm	217.1	226	451	2549	217	229	225	217	4989	310
o	Oil and grease	mg/L	1.0	2.5	6.6	4.0	1.2	1.3	2.1	1.5	6.1	2.0
	Cyanide Total	mg/L	0.001	0.001	0.001	0.003	0.001	0.001	0.001	–	0.003	0.001
	Aluminum	ug/L	87.2	8973.2	4226.6	1612.5	188.3	110.7	59.0	105.0	256.5	91.0
	Boron	ug/L	12.8	12.5	17.6	30.3	13.5	12.3	15.0	12.8	58.0	42.0
	Cobalt	ug/L	2.1	455.8	2.3	2.2	13.3	2.4	2.0	2.0	2.7	2.0
	Copper	ug/L	3.7	3.3	5.7	6.6	3.3	4.3	11.5	6.7	6.8	6.0
	Molybdenum	ug/L	3.0	3.0	3.1	14.4	3.0	3.0	3.0	3.0	3.9	3.0
	Nickel	ug/L	9.0	9.5	9.0	27.5	9.0	9.0	9.0	9.0	9.0	9.0
	Zinc	ug/L	8.7	10.6	983.9	25.3	7.5	27.4	12.5	10.8	21.0	11.7
	Antimony	ug/L	3.8	3.0	3.5	4.8	3.0	5.0	3.0	–	12.0	3.2
	Chromium (hexavalent)	ug/L	20.0	–	20.0	–	–	10.5	–	–	–	–
	Mercury	ug/L	0.03	0.02	0.04	0.05	0.04	0.04	0.21	–	0.03	0.04
	Phenolics (4AAP)	ug/L	1.4	13.1	9.7	5.3	4.5	1.4	2.5	–	17.5	2.9
	Sulphide	ug/L	28.0	30.0	50.0	210.0	35.0	20.0	50.0	–	75.0	65.0
	Bromoform	ug/L	0.4	0.5	0.4	9.9	0.4	0.4	0.4	0.4	0.4	4.6
	Bromomethane	ug/L	2.4	52.3	4873.6	2.4	2.4	118.9	2.4	2.4	2.4	2.4
	Chloroform	ug/L	0.4	30.5	59.4	10.0	0.7	0.9	5.4	0.7	0.5	2.0
	Chloromethane	ug/L	2.3	263.6	81681.6	2.3	2.3	1941.4	2.3	2.3	2.3	2.5
	Methylene chloride	ug/L	0.7	41.7	169.3	0.4	3.1	0.3	0.4	0.3	0.3	0.3
	Benzene	ug/L	0.3	3560.4	32.3	1.1	31.3	3.9	1.1	0.2	0.6	1.0
	Ethylbenzene	ug/L	0.4	0.4	0.4	0.4	0.4	1.0	0.8	0.5	1.8	0.4

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – POLYSAR LTD. – SARNIA

	PARAMETER	UNIT	IN 2400	PR 0300	PR 0900	PR 1800	CO 0200	CO 0400	CO 0500	OT 1400	BA 1700	@@ CO 1100
	Styrene	ug/L	0.4	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	1.1
	Toluene	ug/L	1.0	30.2	30.5	1.1	2.4	1.2	3.8	0.5	0.4	2.2
	Benzylbutylphthalate	ug/L	0.6	0.6	0.9	0.6	0.6	0.6	0.6	–	0.6	0.6
	Bis(2–ethylhexyl) phthalate	ug/L	1.5	1.4	2.1	8.2	3.3	3.2	1.4	–	3.1	1.6
	Di–n–octyl phthalate	ug/L	1.0	0.8	6.9	2.6	0.8	7.9	0.8	–	0.8	0.8
	2,6–Dichlorophenol	ug/L	1.1	1.1	1.1	1.1	1.1	1.1	1.1	–	3.6	1.1
	1,2,4–Trichlorobenzene	ng/L	6.1	55.1	6.1	7.3	6.7	6.1	6.1	–	16.1	8.3
	2,4,5–Trichlorotoluene	ng/L	4.3	2.8	3.9	4.3	2.8	2.8	3.7	–	2.7	100.0
	Hexachlorobenzene	ng/L	5.6	9.8	3.8	3.5	4.7	12.5	5.0	–	4.0	17.3
	Hexachlorobutadiene	ng/L	6.5	5.9	2.7	4.3	16.0	5.3	7.0	–	2.5	65.0
	Pentachlorobenzene	ng/L	2.6	2.7	2.1	2.5	3.4	2.6	3.6	–	2.1	8.2
	Ftflow	m3/day	–	2619	2710	12688	71367	144657	167450	69519	**	103115
	Volume Discharged–Total	m3	**	**	**	**	**	**	**	**	413	**

EXPLANTATORY CODES:
'–' no concentration data available or not required by regulation
'**' parameter does not pertain to this stream
'o' – conventional parameter

SAMPLING POINTS
IN 2400 – Intake Water
PR 0300 – Crumb Separator flows into CO 0200
PR 0900 – Butyl II flows into CO 0400
BA 1700 – Neutralization Sump to River
PR 1800 – Biox Effluent to River
CO 0200 – 72 Inch Sewer to River
CO 0400 – 66 Inch Sewer to River
CO 0500 – 54 Inch Sewer to River
OT 1400 – Turbine Cooling Water to River
@@ CO 1100 – Cole Drain to River draining numerous plant sites – monitored by Polysar

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – POLYSAR LTD. – SARNIA

	PARAMETER	IN 2400	PR 0300	PR 0900	PR 1800	CO 0200	CO 0400	CO 0500	OT 1400	BA 1700	TOTAL	@@ CO 1100
o	DOC	1811.967	15.365	39.062	306.433	284.611	581.513	646.862	195.644	3.974	2019.037	403.449
o	TOC	1410.550	13.276	40.369	262.527	488.471	213.966	749.606	–	3.000	1717.570	385.116
o	COD	9406.769	38.862	73.242	882.791	726.181	1442.568	5202.282	–	10.368	8264.190	864.331
o	Ammonia plus Ammonium	83.357	0.492	0.536	26.603	10.844	23.948	11.647	–	0.562	73.604	9.920
o	Nitrate+Nitrite	187.204	0.196	0.115	9.932	25.241	45.379	51.386	–	1.598	133.536	40.841
o	Total Kjeldahl nitrogen	284.531	0.558	1.549	37.965	26.776	26.891	27.810	–	0.069	119.511	14.429
o	Total suspended solids	2777.791	77.091	59.418	199.812	341.050	630.078	746.801	296.511	4.452	2218.704	548.470
o	VSS	1698.341	18.676	9.612	95.969	289.510	588.226	651.293	–	1.512	1626.510	334.365
o	Total phosphorus	43.774	0.598	0.889	9.921	9.099	20.356	23.907	6.187	0.054	69.524	10.733
o	Oil and grease	473.598	6.731	14.579	51.459	83.794	181.495	354.012	146.225	2.483	819.468	210.639
	Cyanide Total	0.466	0.002	0.003	0.056	0.035	0.056	0.088	–	0.002	0.237	0.035
	Aluminum	40.626	15.596	10.523	17.608	14.029	16.992	10.188	3.409	0.126	62.352	7.386
	Boron	5.942	0.034	0.049	0.378	0.985	1.933	2.599	0.823	0.027	6.745	3.510
	Cobalt	0.969	1.191	0.006	0.027	0.966	0.350	0.348	0.139	0.001	1.831	0.168
	Copper	1.714	0.009	0.015	0.083	0.244	0.612	1.990	0.391	0.003	3.323	0.481
	Molybdenum	1.410	0.008	0.008	0.180	0.220	0.449	0.521	0.209	0.002	1.581	0.252
	Nickel	4.191	0.025	0.024	0.350	0.660	1.348	1.564	0.626	0.004	4.552	0.757
	Zinc	4.042	0.029	2.389	0.353	0.559	4.308	2.172	0.792	0.010	8.194	0.967
	Antimony	1.770	0.009	0.009	0.066	0.230	0.686	0.521	–	0.006	1.509	0.265
	Chromium (hexavalent)	9.314	–	–	–	–	1.322	–	–	–	1.322	–
	Mercury	0.016	*	*	0.001	0.003	0.005	0.037	–	*	0.046	0.003
	Phenolics (4AAP)	0.637	0.042	0.028	0.066	0.332	0.228	0.430	–	0.005	1.061	0.255
	Sulphide	13.039	0.092	0.133	2.861	2.783	3.081	8.691	–	0.030	17.446	6.234
	Bromoform	0.178	0.001	0.001	0.108	0.027	0.055	0.074	0.026	0.004	0.294	0.331
	Bromomethane	1.137	0.154	10.397	0.030	0.173	16.726	0.427	0.167	0.001	17.524	0.235
	Chloroform	0.202	0.087	0.205	0.141	0.053	0.113	0.924	0.033	0.007	1.271	0.150
	Chloromethane	1.071	0.895	222.567	0.029	0.166	251.928	0.409	0.160	0.001	252.693	0.238
	Methylene chloride	0.340	0.115	0.424	0.006	0.227	0.045	0.064	0.021	0.003	0.366	0.029
	Benzene	0.141	8.003	0.144	0.020	2.175	0.723	0.182	0.015	0.007	3.122	0.093
	Ethylbenzene	0.205	0.001	0.001	0.006	0.029	0.133	0.146	0.030	0.001	0.345	0.039

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – POLYSAR LTD. – SARNIA

	PARAMETER	IN 2400	PR 0300	PR 0900	PR 1800	CO 0200	CO 0400	CO 0500	OT 1400	BA 1700	TOTAL	@@ CO 1100
	Styrene	0.186	0.001	0.001	0.005	0.029	0.141	0.071	0.028	0.004	0.278	0.106
	Toluene	0.465	0.097	0.080	0.015	0.170	0.193	0.652	0.039	0.004	1.073	0.170
	Benzylbutylphthalate	0.279	0.002	0.002	0.008	0.046	0.092	0.104	–	0.007	0.257	0.054
	Bis(2–ethylhexyl) phthalate	0.684	0.004	0.006	0.119	0.261	0.412	0.244	–	0.002	1.038	0.152
	Di–n–octyl phthalate	0.488	0.002	0.016	0.012	0.061	0.919	0.139	–	0.009	1.140	0.072
	2,6–Dichlorophenol	0.512	0.003	0.003	0.014	0.084	0.166	0.191	–	0.066	0.521	0.093
	1,2,4–Trichlorobenzene	0.003	*	*	*	*	0.001	0.001	–	*	0.002	0.001
	2,4,5–Trichlorotoluene	0.002	*	*	*	*	*	0.001	–	*	0.001	0.008
	Hexachlorobenzene	0.003	*	*	*	*	0.002	0.001	–	*	0.003	0.002
	Hexachlorobutadiene	0.003	*	*	*	0.001	0.001	0.001	–	*	0.003	0.006
	Pentachlorobenzene	0.001	*	*	*	*	*	0.001	–	*	0.001	0.001

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 2400 – Intake Water
PR 0300 – Crumb Separator flows into CO 0200
PR 0900 – Butyl II flows into CO 0400
PR 1800 – Biox Effluent to River
CO 0200 – 72 inch Sewer to River
CO 0400 – 66 inch Sewer to River
CO 0500 – 54 inch Sewer to River
OT 1400 – Turbine Cooling Water to River
BA 1700 – Neutralization Sump to River
@@ CO 1100 – Cole Drain to River draining numerous plant sites – monitored by Polysar

APPENDIX E

SIX-MONTH AVERAGE CONCENTRATION/LOADING TABLES BY INDIVIDUAL CONTROL POINTS FOR EACH PLANT

THE LAKE ERIE/ONTARIO BASIN PLANTS

	PAGE
B.F. GOODRICH CANADA INC. - THOROLD	E-2
CANADIANOXY CHEMICALS LTD. - FORT ERIE	E-4
CELANESE CANADA INC. - MILLHAVEN	E-6
DUPONT CANADA INC. - KINGSTON	E-8
G.E. PLASTICS CANADA LTD. - COBOURG	E-12
STEPAN CANADA INC. - LONGFORD MILLS	E-14
UNIROYAL CHEMICAL LTD. - ELMIRA	E-16

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – B.F. GOODRICH CANADA INC. – THOROLD

	PARAMETER	UNIT	IN 0600	PR 0100
o	DOC	mg/L	9.8	15.8
o	TOC	mg/L	9	23
o	COD	mg/L	45	26
o	Ammonia plus Ammonium	mg/L	0.21	0.27
o	Nitrate+Nitrite	mg/L	1.70	0.97
o	Total Kjeldahl nitrogen	mg/L	0.8	1.3
o	Total suspended solids	mg/L	27	26
o	VSS	mg/L	4	15
o	Total phosphorus	mg/L	0.1	0.1
o	Hydrogen ion (pH)		7.7	7.7
o	Specific conductance	uS/cm	329	1146
o	Oil and grease	mg/L	1.0	1.0
	Cyanide Total	mg/L	0.005	0.108
	Aluminum	ug/L	462.7	508.7
	Boron	ug/L	44.0	59.0
	Zinc	ug/L	17.0	30.5
	Mercury	ug/L	2.05	0.10
	Phenolics (4AAP)	ug/L	8.0	11.2
	Chloroform	ug/L	0.7	11.1
	Methylene chloride	ug/L	3.0	1.8
	Trichloroethylene	ug/L	0.4	8.6
	Vinyl chloride	ug/L	0.9	266.2
	Benzene	ug/L	0.5	0.2
	Toluene	ug/L	0.8	0.4
	1,2,3,5–Tetrachlorobenzene	ng/L	10.0	10.9
	Octachlorodibenzo–p–dioxin	pg/L	250.0	380.0
	Ftflow	m3/day	–	2987

Explanatory Notes:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0600 – Intake Water to Site
PR 0100 – Final Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – B.F. GOODRICH CANADA INC. – THOROLD

	PARAMETER	IN 0600	PR 0100	TOTAL
o	DOC	29.277	48.882	48.882
o	TOC	26.388	70.965	70.965
o	COD	134.434	60.044	60.044
o	Ammonia plus Ammonium	0.633	0.800	0.800
o	Nitrate+Nitrite	5.085	3.188	3.188
o	Total Kjeldahl nitrogen	2.515	3.938	3.938
o	Total suspended solids	80.003	80.229	80.229
o	VSS	12.646	43.067	43.067
o	Total phosphorus	0.326	0.321	0.321
o	Oil and grease	2.913	2.964	2.964
	Cyanide Total	0.015	0.319	0.319
	Aluminum	1.382	1.323	1.323
	Boron	0.131	0.166	0.166
	Zinc	0.051	0.097	0.097
	Mercury	0.006	*	*
	Phenolics (4AAP)	0.024	0.027	0.027
	Chloroform	0.002	0.031	0.031
	Methylene chloride	0.009	0.005	0.005
	Trichloroethylene	0.001	0.023	0.023
	Vinyl chloride	0.003	0.863	0.863
	Benzene	0.001	0.001	0.001
	Toluene	0.001	0.001	0.001
	1,2,3,5–Tetrachlorobenzene	*	*	*
	Octachlorodibenzo–p–dioxin	*	*	*

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – intake water to site
PR 0100 – Final Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – CANADIANOXY CHEMICALS LTD. – FORT ERIE

	PARAMETER	UNIT	IN 0400	OT 0100
o	DOC	mg/L	1.8	2.5
o	TOC	mg/L	–	2
o	COD	mg/L	–	–
o	Ammonia plus Ammonium	mg/L	0.03	0.15
o	Nitrate+Nitrite	mg/L	–	–
o	Total Kjeldahl nitrogen	mg/L	0.1	0.6
o	Total suspended solids	mg/L	2	4
o	VSS	mg/L	–	–
o	Total phosphorus	mg/L	0.01	0.01
o	Hydrogen ion (pH)		7.9	8.1
o	Specific conductance	uS/cm	301	494
o	Oil and grease	mg/L	1.0	1.0
	Aluminum	ug/L	60.0	153.6
	Zinc	ug/L	10.0	22.7
	Phenolics (4AAP)	ug/L	1.0	46.9
	Ftflow	m3/day	–	109

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0400 – Intake Water to Site
OT 0100 – Final Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – CANADIANOXY CHEMICALS LTD. – FORT ERIE

	PARAMETER	IN 0400	OT 0100	TOTAL
o	DOC	0.214	0.288	0.288
o	TOC	–	0.312	0.312
o	COD	–	–	–
o	Ammonia plus Ammonium	0.003	0.020	0.020
o	Nitrate+Nitrite	–	–	–
o	Total Kjeldahl nitrogen	0.011	0.078	0.078
o	Total suspended solids	0.237	0.447	0.447
o	VSS	–	–	–
o	Total phosphorus	0.001	0.002	0.002
o	Oil and grease	0.119	0.109	0.109
	Aluminum	0.007	0.021	0.021
	Zinc	0.001	0.003	0.003
	Phenolics (4AAP)	*	0.007	0.007

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
OT 0100 – Final Effluent to River
IN 0400 – Intake Water to Site

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – CELANESE CANADA INC. – MILLHAVEN

	PARAMETER	UNIT	IN 0900	PR 0400	CO 0100	CO 0200	CO 0300
o	DOC	mg/L	2.7	6.8	5.5	3.3	2.6
o	TOC	mg/L	–	21	14	–	–
o	COD	mg/L	22	46	21	11	11
o	Ammonia plus Ammonium	mg/L	0.06	2.48	0.54	0.04	0.04
o	Nitrate+Nitrite	mg/L	0.31	2.16	0.94	0.29	0.28
o	Total Kjeldahl nitrogen	mg/L	0.5	3.6	0.8	0.4	0.4
o	Total suspended solids	mg/L	6	9	6	3	2
o	VSS	mg/L	4	9	2	2	1
o	Total phosphorus	mg/L	0.05	0.91	0.48	0.02	0.07
o	Hydrogen ion (pH)		8.1	8.1	8.1	8.2	8.2
o	Specific conductance	uS/cm	319	464	413	322	322
o	Oil and grease	mg/L	1.5	1.3	1.1	1.2	1.1
	Cyanide Total	mg/L	0.004	0.003	0.004	0.002	0.002
	Aluminum	ug/L	116.0	54.0	62.6	51.3	69.8
	Copper	ug/L	6.0	12.7	6.4	15.5	7.0
	Zinc	ug/L	13.2	15.1	13.4	36.0	18.8
	Antimony	ug/L	1.0	55.2	25.1	1.0	2.9
	Chromium (hexavalent)	ug/L	24.2	22.4	17.8	10.6	9.0
	Phenolics (4AAP)	ug/L	0.6	1.0	1.0	1.1	1.6
	1,1–Dichloroethane	ug/L	0.2	0.2	0.6	0.2	0.2
	1,2–Dichloroethane	ug/L	0.8	0.8	0.8	0.8	0.8
	Chloroform	ug/L	1.0	1.4	0.9	0.6	1.8
	Chloromethane	ug/L	23.8	0.7	2.4	1.8	2.8
	Methylene chloride	ug/L	4.6	1.8	4.3	3.6	4.1
	Benzene	ug/L	0.5	0.7	0.5	2.1	0.9
	Toluene	ug/L	0.5	0.2	0.2	0.3	0.4
	1,2,3,4–Tetrachlorobenzene	ng/L	55.6	1.2	2.3	1.2	1.2
	1,2,3,5–Tetrachlorobenzene	ng/L	8.4	2.1	2.1	2.1	2.1
	1,2,3–Trichlorobenzene	ng/L	59.8	3.2	3.6	3.2	3.2
	1,2,4–Trichlorobenzene	ng/L	201.4	8.4	9.9	10.4	1.8
	Pentachlorobenzene	ng/L	6.1	1.1	1.1	1.1	1.1
	Ftflow	m3/day	54470	4401	9899	32571	19845

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
PR 0400 – Treatment Plant Effluent flows into CO 0100
IN 0900 – Intake Water to Site
CO 0100 – Centre Outfall to Lake
CO 0200 – West Outfall to Lake
CO 0300 – East Outfall to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – CELANESE CANADA INC. – MILLHAVEN

	PARAMETER	IN 0900	PR 0400	CO 0100	CO 0200	CO 0300	TOTAL
o	DOC	140.975	29.768	52.863	97.294	50.709	200.866
o	TOC	–	96.526	139.598	–	–	139.598
o	COD	1130.427	206.540	236.697	378.855	236.223	851.775
o	Ammonia plus Ammonium	2.527	10.882	4.713	1.078	0.672	15.595
o	Nitrate+Nitrite	18.155	9.493	10.033	10.566	5.451	26.050
o	Total Kjeldahl nitrogen	15.499	16.093	7.590	13.562	7.632	23.683
o	Total suspended solids	386.925	41.158	54.795	86.974	38.639	180.408
o	VSS	283.812	40.068	18.218	49.342	21.708	58.286
o	Total phosphorus	0.951	4.055	5.067	0.531	1.289	6.887
o	Oil and grease	42.982	5.668	11.303	36.710	21.683	69.696
	Cyanide Total	0.215	0.013	0.046	0.073	0.036	0.155
	Aluminum	4.355	0.237	0.642	1.450	1.118	3.210
	Copper	0.326	0.057	0.064	0.451	0.135	0.650
	Zinc	0.601	0.067	0.134	1.426	0.267	1.827
	Antimony	0.057	0.232	0.250	0.032	0.068	0.350
	Chromium (hexavalent)	1.499	0.092	0.158	0.277	0.171	0.606
	Phenolics (4AAP)	0.033	0.004	0.010	0.035	0.032	0.077
	1,1–Dichloroethane	0.009	0.001	0.006	0.007	0.004	0.017
	1,2–Dichloroethane	0.035	0.004	0.009	0.030	0.015	0.054
	Chloroform	0.024	0.006	0.009	0.020	0.055	0.084
	Chloromethane	2.020	0.003	0.029	0.077	0.012	0.118
	Methylene chloride	0.129	0.008	0.047	0.153	0.096	0.296
	Benzene	0.030	0.003	0.005	0.062	0.027	0.094
	Toluene	0.010	0.001	0.003	0.012	0.009	0.024
	1,2,3,4–Tetrachlorobenzene	*	*	*	*	*	*
	1,2,3,5–Tetrachlorobenzene	*	*	*	*	*	*
	1,2,3–Trichlorobenzene	*	*	*	*	*	*
	1,2,4–Trichlorobenzene	*	*	*	*	*	*
	Pentachlorobenzene	*	*	*	*	*	*

EXPLANATORY NOTES:
'–' not required by the regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0900 – Intake Water to Site
CO 0300 – East Outfall to Lake
PR 0400 – Treatment Plant Effluent flows into CO 0100
CO 0100 – Centre Outfall to Lake
CO 0200 – West Outfall to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DU PONT CANADA INC. – KINGSTON

	PARAMETER	UNIT	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100
o	DOC	mg/L	1.9	4.9	142.3	4.6	6.7
o	TOC	mg/L	2	6	180	6	4
o	COD	mg/L	–	16	1280	32	36
o	Ammonia plus Ammonium	mg/L	–	0.32	0.52	0.14	1.44
o	Nitrate+Nitrite	mg/L	–	0.28	0.06	0.29	0.30
o	Total Kjeldahl nitrogen	mg/L	–	1.0	5.1	1.8	0.8
o	Total suspended solids	mg/L	10	10	71	6	9
o	VSS	mg/L	–	5	116	5	3
o	Total phosphorus	mg/L	0.1	0.1	3.0	0.1	0.4
o	Hydrogen ion (pH)		8.0	8.2	7.7	8.2	8.2
o	Specific conductance	uS/cm	322	324	332	335	363
o	Oil and grease	mg/L	1.6	1.7	214.2	2.1	1.9
	Aluminum	ug/L	71.7	45.1	41.9	37.4	45.3
	Boron	ug/L	55.0	56.7	68.3	58.3	56.7
	Copper	ug/L	33.3	21.7	15.0	10.0	11.7
	Zinc	ug/L	111.7	11.7	17.0	10.0	10.0
	Phenolics (4AAP)	ug/L	1.3	1.2	391.1	1.6	2.2
	Sulphide	ug/L	10.0	10.0	78.0	10.0	10.0
	1,1,2,2–Tetrachloroethane	ug/L	1.0	1.0	5.5	1.0	1.0
	1,1,2–Trichloroethane	ug/L	0.3	0.2	2.1	0.3	0.2
	1,1–Dichloroethane	ug/L	0.2	0.2	1.1	0.2	0.2
	1,2–Dichloroethane	ug/L	0.2	0.2	1.1	0.2	0.2
	1,2–Dichloropropane	ug/L	0.2	0.2	1.1	0.2	0.2
	Bromodichloromethane	ug/L	5.1	2.3	1.6	2.6	2.4
	Bromoform	ug/L	2.0	1.0	11.0	2.0	2.0
	Bromomethane	ug/L	2.0	1.0	11.0	2.0	2.0
	Chlorobenzene	ug/L	0.2	0.2	1.1	0.2	0.2
	Chloroform	ug/L	7.4	3.0	3.4	3.7	4.0
	Chloromethane	ug/L	2.0	2.0	11.0	2.0	2.0
	Cis–1,3–Dichloropropylene	ug/L	0.5	0.5	2.8	0.5	0.5

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DU PONT CANADA INC. – KINGSTON

	PARAMETER	UNIT	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100
	Dibromochloromethane	ug/L	2.9	1.1	5.7	1.4	1.3
	Ethylene dibromide	ug/L	1.0	1.0	5.5	1.0	1.0
	Methylene chloride	ug/L	0.7	0.5	4.8	0.7	0.8
	Tetrachloroethylene	ug/L	0.5	0.5	2.8	0.5	0.5
	Trans–1,3–Dichloropropylene	ug/L	0.5	0.5	2.8	0.5	0.5
	Trichlorofluoromethane	ug/L	1.0	1.0	5.5	1.0	1.0
	Vinyl chloride	ug/L	2.0	2.0	11.0	2.0	2.0
	Benzene	ug/L	0.1	0.3	1.5	0.7	0.3
	Ethylbenzene	ug/L	0.2	0.2	1.1	0.2	0.2
	Styrene	ug/L	0.2	0.2	1.1	0.4	0.8
	Toluene	ug/L	0.2	0.2	1.2	0.2	0.3
	o–Xylene	ug/L	0.2	0.2	1.1	0.2	0.2
	Acrolein	ug/L	4.0	4.0	22.0	4.0	4.0
	Acrylonitrile	ug/L	2.0	2.0	11.0	2.0	2.0
	Biphenyl	ug/L	–	5.8	1.3	0.9	3.1
	Bis(2–ethylhexyl) phthalate	ug/L	–	2.0	16.4	2.0	2.0
	Diphenyl ether	ug/L	–	21.3	5.0	3.3	10.0
	2,3,7,8 TCDD	pg/L	–	20.0	27.5	20.0	20.0
	Octachlorodibenzo–p–dioxin	pg/L	–	30.0	55.5	30.0	30.0
	Octachlorodibenzofuran	pg/L	–	30.0	65.0	30.0	30.0
	Total H7CDD	pg/L	–	21.0	21.0	30.5	21.0
	Total TCDD	pg/L	–	20.0	210.0	20.0	20.0
	Total TCDF	pg/L	–	10.0	10.0	27.0	10.0
	Ftflow	m3/day	41980	1065	108	28221	23510

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 1300 – Intake Water to Site
PR 0600 – Flake Effluent flows into CO 1100
PR 1000 – Staple Sewer flows into CO 1100
CO 0700 – Service Sewer to Lake
CO 1100 – Catch Tank Effluent to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DU PONT CANADA INC. – KINGSTON

	PARAMETER	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100	TOTAL
o	DOC	96.553	5.183	16.054	132.598	146.724	279.322
o	TOC	–	5.855	19.932	226.423	107.307	333.730
o	COD	–	17.545	131.760	948.859	799.202	1748.061
o	Ammonia plus Ammonium	–	0.376	0.064	3.752	35.729	39.481
o	Nitrate+Nitrite	–	0.299	0.003	8.183	6.851	15.034
o	Total Kjeldahl nitrogen	–	1.123	0.526	51.737	19.793	71.530
o	Total suspended solids	209.898	10.505	7.848	167.610	217.817	385.427
o	VSS	–	5.483	8.491	149.535	83.562	233.097
o	Total phosphorus	4.198	0.101	0.295	3.233	9.839	13.072
o	Oil and grease	41.980	1.767	24.697	58.848	43.851	102.699
	Aluminum	1.259	0.045	0.004	1.137	1.120	2.257
	Boron	2.099	0.060	0.007	1.635	1.309	2.944
	Copper	1.259	0.021	0.002	0.284	0.275	0.559
	Zinc	3.358	0.012	0.002	0.284	0.239	0.523
	Phenolics (4AAP)	0.042	0.001	0.031	0.040	0.058	0.098
	Sulphide	0.420	0.010	0.006	0.284	0.239	0.523
	1,1,2,2–Tetrachloroethane	0.042	0.001	0.001	0.028	0.024	0.052
	1,1,2–Trichloroethane	0.008	*	*	0.008	0.005	0.013
	1,1–Dichloroethane	0.008	*	*	0.006	0.005	0.011
	1,2–Dichloroethane	0.008	*	*	0.006	0.005	0.011
	1,2–Dichloropropane	0.008	*	*	0.006	0.005	0.011
	Bromodichloromethane	0.197	0.002	*	0.074	0.057	0.131
	Bromoform	0.084	0.002	0.001	0.057	0.048	0.105
	Bromomethane	0.084	0.002	0.001	0.057	0.048	0.105
	Chlorobenzene	0.008	*	*	0.006	0.005	0.011
	Chloroform	0.353	0.003	*	0.099	0.095	0.194
	Chloromethane	0.084	0.002	0.001	0.057	0.048	0.105
	Cis–1,3–Dichloropropylene	0.021	0.001	*	0.014	0.012	0.026

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DU PONT CANADA INC. – KINGSTON

	PARAMETER	IN 1300	PR 0600	PR 1000	CO 0700	CO 1100	TOTAL
	Dibromochloromethane	0.080	0.001	0.001	0.041	0.029	0.070
	Ethylene dibromide	0.042	0.001	0.001	0.028	0.024	0.052
	Methylene chloride	0.076	0.001	0.001	0.017	0.020	0.037
	Tetrachloroethylene	0.021	0.001	*	0.014	0.012	0.026
	Trans–1,3–Dichloropropylene	0.021	0.001	*	0.014	0.012	0.026
	Trichlorofluoromethane	0.042	0.001	0.001	0.028	0.024	0.052
	Vinyl chloride	0.084	0.002	0.001	0.057	0.048	0.105
	Benzene	0.004	*	*	0.015	0.006	0.021
	Ethylbenzene	0.008	*	*	0.006	0.005	0.011
	Styrene	0.008	*	*	0.012	0.016	0.028
	Toluene	0.008	*	*	0.006	0.006	0.012
	o–Xylene	0.008	*	*	0.006	0.005	0.011
	Acrolein	0.168	0.004	0.002	0.114	0.096	0.210
	Acrylonitrile	0.084	0.002	0.001	0.057	0.048	0.105
	Biphenyl	–	0.006	*	0.023	0.080	0.103
	Bis(2–ethylhexyl) phthalate	–	0.002	0.002	0.060	0.047	0.107
	Diphenyl ether	–	0.024	0.001	0.091	0.253	0.344
	2,3,7,8 TCDD	–	*	*	*	*	*
	Octachlorodibenzo–p–dioxin	–	*	*	*	*	*
	Octachlorodibenzofuran	–	*	*	*	*	*
	Total H7CDD	–	*	*	*	*	*
	Total TCDD	–	*	*	*	*	*
	Total TCDF	–	*	*	*	*	*

EXPLANATORY NOTES:
'–' not required by the regulation or no conc/flow data available
'*' loading less than 1 gram/day 'o' – conventional parameter
SAMPLING POINTS:
IN 1300 – Intake Water to Site PR 0600 – Flake Effluent flows into CO 1100
CO 0700 – Service Sewer to Lake PR 1000 – Staple Sewer flows into CO 1100
CO 1100 – Catch Tank Effluent to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – G.E. PLASTICS CANADA LTD. – COBOURG

	PARAMETER	UNIT	IN 0600	CO 0100	OT 0400
o	DOC	mg/L	–	21.2	6.6
o	TOC	mg/L	5	37	–
o	COD	mg/L	6	100	–
o	Ammonia plus Ammonium	mg/L	–	28.02	1.28
o	Nitrate+Nitrite	mg/L	–	10.22	1.58
o	Total Kjeldahl nitrogen	mg/L	–	33.4	1.8
o	Total suspended solids	mg/L	–	28	5
o	VSS	mg/L	–	27	–
o	Total phosphorus	mg/L	0.1	0.6	0.1
o	Hydrogen ion (pH)		–	7.8	7.6
o	Specific conductance	uS/cm	–	2280	459
o	Oil and grease	mg/L	1.4	3.1	2.1
	Cyanide Total	mg/L	0.002	0.116	0.002
	Aluminum	ug/L	63.2	361.2	103.0
	Zinc	ug/L	30.4	12.5	46.0
	Antimony	ug/L	2.6	52.2	11.8
	Phenolics (4AAP)	ug/L	1.8	78.0	3185.5
	Benzene	ug/L	0.8	0.3	0.2
	Ftflow	m3/day	1979	1878	119

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – Intake Water to Site
CO 0100 – Clarifier Effluent to Lake
OT 0400 – Cooling Water to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – GE PLASTICS CANADA LTD. – COBOURG

	PARAMETER	IN 0600	CO 0100	OT 0400	TOTAL
o	DOC	–	39.264	0.426	39.690
o	TOC	–	64.801	–	64.801
o	COD	12.270	236.900	–	236.900
o	Ammonia plus Ammonium	–	52.705	0.028	52.733
o	Nitrate+Nitrite	–	16.902	0.028	16.930
o	Total Kjeldahl nitrogen	–	62.576	0.037	62.613
o	Total suspended solids	–	50.781	0.577	51.358
o	VSS	–	50.917	–	50.917
o	Total phosphorus	0.515	1.038	0.005	1.043
o	Oil and grease	3.364	5.758	0.149	5.907
	Cyanide Total	0.004	0.215	*	0.215
	Aluminum	0.119	0.576	0.009	0.585
	Zinc	0.032	0.023	0.002	0.025
	Antimony	0.002	0.090	0.001	0.091
	Phenolics (4AAP)	0.004	0.134	0.049	0.183
	Benzene	–	0.001	*	0.001

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – Intake Water to Site
CO 0100 – Clarifier Effluent to Lake
OT 0400 – Cooling Water to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – STEPAN CANADA INC. – LONGFORD MILLS

	PARAMETER	UNIT	IN 0600	PR 0200	CO 0100
o	DOC	mg/L	10.5	31.2	7.8
o	TOC	mg/L	18	34	8
o	COD	mg/L	19	201	38
o	Ammonia plus Ammonium	mg/L	0.05	0.87	0.10
o	Nitrate+Nitrite	mg/L	0.10	0.36	0.15
o	Total Kjeldahl nitrogen	mg/L	0.6	3.5	0.8
o	Total suspended solids	mg/L	1	12	6
o	VSS	mg/L	–	10	2
o	Total phosphorus	mg/L	–	0.2	0.1
o	Hydrogen ion (pH)		–	6.8	7.6
o	Specific conductance	uS/cm	–	2858	415
o	Oil and grease	mg/L	1.0	12.9	4.1
	Cyanide Total	mg/L	0.005	–	–
	Aluminum	ug/L	53.0	781.2	137.5
	Boron	ug/L	29.0	57.8	29.2
	Cadmium	ug/L	2.0	6.9	2.6
	Copper	ug/L	6.5	14.6	8.8
	Lead	ug/L	37.0	15.6	10.6
	Nickel	ug/L	15.0	22.3	18.3
	Zinc	ug/L	11.0	59.6	26.2
	Phenolics (4AAP)	ug/L	6.0	18.7	3.0
	Sulphide	ug/L	20.0	14.0	17.3
	Carbon tetrachloride	ug/L	0.4	8.0	0.4
	Chloroform	ug/L	0.7	7.6	1.9
	Benzene	ug/L	0.5	0.4	0.4
	Toluene	ug/L	0.8	0.5	0.5
	Bis(2–ethylhexyl) phthalate	ug/L	2.0	3.9	2.0
	1,2,3,5–Tetrachlorobenzene	ng/L	10.0	11.5	10.0
	PCBT	ug/L	0.1	0.4	0.1
	Ftflow	m3/day	–	149	2384

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – Intake Water to Site
PR 0200 – Clarifier Effluent flows into CO 0100
CO 0100 – Effluent to Lake

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – STEPAN CANADA INC. – LONGFORD MILLS

	PARAMETER	IN 0600	PR 0200	CO 0100	TOTAL
o	DOC	25.902	4.260	18.582	18.582
o	TOC	44.403	4.712	19.227	19.227
o	COD	45.636	23.469	89.474	89.474
o	Ammonia plus Ammonium	0.123	0.070	0.222	0.222
o	Nitrate+Nitrite	0.247	0.036	0.287	0.287
o	Total Kjeldahl nitrogen	1.480	0.400	1.649	1.649
o	Total suspended solids	2.467	1.692	13.196	13.196
o	VSS	–	1.416	4.546	4.546
o	Total phosphorus	–	0.035	0.235	0.235
o	Oil and grease	2.467	2.115	9.512	9.512
	Aluminum	0.131	0.088	0.350	0.350
	Boron	0.072	0.009	0.070	0.070
	Cadmium	0.005	0.001	0.006	0.006
	Copper	0.016	0.002	0.021	0.021
	Lead	0.091	0.002	0.024	0.024
	Nickel	0.037	0.003	0.043	0.043
	Zinc	0.027	0.008	0.068	0.068
	Phenolics (4AAP)	0.015	0.002	0.007	0.007
	Sulphide	0.049	0.002	0.041	0.041
	Carbon tetrachloride	0.001	0.001	0.001	0.001
	Chloroform	0.002	0.001	0.005	0.005
	Benzene	0.001	*	0.001	0.001
	Toluene	0.002	*	0.001	0.001
	Bis(2–ethylhexyl) phthalate	0.005	*	0.005	0.005
	1,2,3,5–Tetrachlorobenzene	*	*	*	*
	PCBT	*	*	*	*

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0600 – Intake Water to Site
CO 0100 – Effluent to Lake
PR 0200 – Clarifier Effluent flows into CO 0100

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – UNIROYAL CHEMICAL LTD. – ELMIRA

	PARAMETER	UNIT	IN 1000	IN 1100	CO 0600	CO 0800	CO 0900	OT 0200
o	DOC	mg/L	5.6	12.1	6.0	8.6	8.4	9.0
o	TOC	mg/L	–	9	–	7	7	3
o	COD	mg/L	–	–	15	6	24	–
o	Ammonia plus Ammonium	mg/L	–	1.75	0.12	0.35	0.22	0.11
o	Nitrate+Nitrite	mg/L	–	7.12	1.87	5.48	1.14	1.93
o	Total Kjeldahl nitrogen	mg/L	–	1.8	0.8	1.0	1.1	3.9
o	Total suspended solids	mg/L	4	25	4	16	11	15
o	VSS	mg/L	–	–	4	4	4	–
o	Total phosphorus	mg/L	–	1.1	0.5	0.2	0.2	0.1
o	Hydrogen ion (pH)		7.7	7.9	8.0	8.0	8.2	7.8
o	Specific conductance	uS/cm	910	1451	834	1184	1208	581
o	Oil and grease	mg/L	–	2.5	1.1	1.6	4.4	2.0
	Aluminum	ug/L	–	116.5	9.3	182.7	254.3	82.7
	Boron	ug/L	–	53.8	44.7	36.7	30.2	45.0
	Copper	ug/L	–	13.3	5.2	8.2	9.2	30.7
	Zinc	ug/L	–	14.9	32.3	110.8	49.7	12.2
	Mercury	ug/L	–	0.04	0.15	0.04	0.11	0.05
	Phenolics (4AAP)	ug/L	–	3.0	5.7	11.7	12.9	4.7
	Sulphide	ug/L	–	60.0	34.5	65.0	45.0	–
	Chloroform	ug/L	–	0.4	0.6	0.4	2.0	–
	Methylene chloride	ug/L	–	0.3	5.6	0.3	0.6	–
	Toluene	ug/L	–	0.4	5.7	18.8	419.4	0.7
	Benzylbutylphthalate	ug/L	–	–	1.4	0.6	0.6	–
	Bis(2–ethylhexyl) phthalate	ug/L	–	–	1.4	2.5	8.7	–
	Octachlorodibenzofuran	pg/L	–	22.0	22.0	23.7	160.5	–
	Total H7CDF	pg/L	–	20.0	20.0	20.0	145.0	–
	Ftflow	m3/day	4567	2449	520	2834	324	755

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 1000 – Intake Water to Site (Municipal)
IN 1100 – Shirt Factory Creek to Site
CO 0600 – Outfall #6 to River
CO 0800 – Shirt Factory Creek from Site
CO 0900 – Outfall #11 to River
OT 0200 – Outfall #2 to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – UNIROYAL CHEMICAL LTD. – ELMIRA

	PARAMETER	IN 1000	IN 1100	CO 0600	CO 0800	CO 0900	OT 0200	TOTAL
o	DOC	25.575	21.052	2.757	17.536	2.790	3.625	26.708
o	TOC	–	88.175	–	23.092	1.918	4.126	29.136
o	COD	–	–	10.225	12.276	8.517	–	31.018
o	Ammonia plus Ammonium	–	1.499	0.021	0.862	0.067	0.075	1.025
o	Nitrate+Nitrite	–	10.620	0.726	16.040	0.335	1.304	18.405
o	Total Kjeldahl nitrogen	–	2.912	0.305	2.379	0.403	0.620	3.707
o	Total suspended solids	19.181	912.385	1.801	43.314	3.421	13.838	62.374
o	VSS	–	–	3.693	6.930	1.330	–	11.953
o	Total phosphorus	–	0.794	0.352	0.327	0.071	0.118	0.868
o	Oil and grease	–	2.366	0.570	3.561	1.759	1.322	7.212
	Aluminum	–	0.211	0.004	0.245	0.114	0.089	0.452
	Boron	–	0.063	0.019	0.095	0.010	0.034	0.158
	Copper	–	0.015	0.003	0.019	0.004	0.044	0.070
	Zinc	–	0.020	0.003	0.474	0.018	0.011	0.506
	Mercury	–	*	*	*	*	*	*
	Phenolics (4AAP)	–	0.003	0.002	0.023	0.003	0.005	0.033
	Sulphide	–	0.084	0.019	0.175	0.017	–	0.211
	Chloroform	–	0.001	*	0.001	0.001	–	0.002
	Methylene chloride	–	*	0.005	0.001	*	–	0.006
	Toluene	–	*	0.001	0.048	0.076	–	0.125
	Benzylbutylphthalate	–	–	0.001	0.001	*	–	0.002
	Bis(2–ethylhexyl) phthalate	–	–	0.001	0.006	0.003	–	0.010
	Octachlorodibenzofuran	–	*	*	*	*	–	*
	Total H7CDF	–	*	*	*	*	–	*

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 1000 – Intake Water to Site (Municipal)
IN 1100 – Shirt Factory Creek to Site
CO 0600 – Outfall #6 to River
CO 0800 – Shirt Factory Creek from Site
CO 0900 – Outfall #11 to River
OT 0200 – Outfall #2 to River

APPENDIX F

SIX-MONTH AVERAGE CONCENTRATION/LOADING TABLES BY INDIVIDUAL CONTROL POINTS FOR EACH PLANT

THE ST. LAWRENCE RIVER PLANTS

	PAGE
CORNWALL CHEMICALS LTD. - CORNWALL	F-2
COURTAULDS FIBRES CANADA - CORNWALL	F-4
DUPONT CANADA INC. - MAITLAND	F-8
ROHM AND HAAS CANADA INC. - MORRISBURG	F-14

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – CORNWALL CHEMICALS LTD. – CORNWALL

	PARAMETER	UNIT	IN 0300	PR 0100
o	DOC	mg/L	3.2	5.1
o	TOC	mg/L	–	4
o	COD	mg/L	5	98
o	Ammonia plus Ammonium	mg/L	0.15	0.12
o	Nitrate+Nitrite	mg/L	0.26	0.16
o	Total Kjeldahl nitrogen	mg/L	0.4	0.8
o	Total suspended solids	mg/L	6	8
o	VSS	mg/L	–	14
o	Total phosphorus	mg/L	0.02	0.13
o	Hydrogen ion (pH)		7.8	6.3
o	Specific conductance	uS/cm	226	1682
o	Oil and grease	mg/L	0.9	5.6
	Aluminum	ug/L	62.3	276.7
	Beryllium	ug/L	12.3	5.0
	Boron	ug/L	–	132.8
	Cadmium	ug/L	9.0	0.4
	Copper	ug/L	13.2	12.0
	Molybdenum	ug/L	31.7	31.8
	Thallium	ug/L	33.0	11.2
	Vanadium	ug/L	67.0	9.3
	Zinc	ug/L	11.2	45.1
	Mercury	ug/L	0.58	3.81
	Sulphide	ug/L	16.7	7265.4
	Bromodichloromethane	ug/L	2.9	2.3
	Carbon tetrachloride	ug/L	0.6	19235.0
	Chloroform	ug/L	8.2	64.3
	Chloromethane	ug/L	1.5	52.0
	Methylene chloride	ug/L	0.6	5.1
	Tetrachloroethylene	ug/L	0.4	1.4
	Trichloroethylene	ug/L	0.4	1.9
	Hexachlorobenzene	ng/L	4.3	73.9
	Hexachlorobutadiene	ng/L	5.8	55.6
	Hexachlorocyclopentadiene	ng/L	17.0	12.6
	Hexachloroethane	ng/L	4.5	538.7
	Ftflow	m3/day	–	653

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 0300 – Intake Water to Site
PR 0100 – Manhole 26 Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – CORNWALL CHEMICALS LTD. – CORNWALL

	PARAMETER	IN 0300	PR 0100	TOTAL
o	DOC	2.110	3.377	3.377
o	TOC	–	2.758	2.758
o	COD	3.264	49.253	49.253
o	Ammonia plus Ammonium	0.098	0.059	0.059
o	Nitrate+Nitrite	0.170	0.080	0.080
o	Total Kjeldahl nitrogen	0.255	0.382	0.382
o	Total suspended solids	3.916	5.674	5.674
o	VSS	–	7.355	7.355
o	Total phosphorus	0.015	0.088	0.088
o	Oil and grease	0.587	3.879	3.879
	Aluminum	0.041	0.165	0.165
	Beryllium	0.008	0.003	0.003
	Boron	–	0.093	0.093
	Cadmium	0.006	*	*
	Copper	0.009	0.008	0.008
	Molybdenum	0.021	0.020	0.020
	Thallium	0.022	0.007	0.007
	Vanadium	0.044	0.006	0.006
	Zinc	0.007	0.030	0.030
	Mercury	*	0.003	0.003
	Sulphide	0.011	4.997	4.997
	Bromodichloromethane	0.002	0.001	0.001
	Carbon tetrachloride	*	12.770	12.770
	Chloroform	0.005	0.039	0.039
	Chloromethane	0.001	0.027	0.027
	Methylene chloride	*	0.003	0.003
	Tetrachloroethylene	*	0.001	0.001
	Trichloroethylene	*	0.001	0.001
	Hexachlorobenzene	*	*	*
	Hexachlorobutadiene	*	*	*
	Hexachlorocyclopentadiene	*	*	*
	Hexachloroethane	*	*	*

EXPLANATORY NOTES:
'–' not required by the regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0300 – Intake Water to Site
PR 0100 – Manhole 26 Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – COURTAULDS FIBRES CANADA – CORNWALL

	PARAMETER	UNIT	IN 1300	PR 0100	PR 0300	CO 0500	CO 0600	CO 0700	CO 0800
o	DOC	mg/L	5.3	227.7	105.2	7.5	5.9	6.1	6.7
o	TOC	mg/L	–	239	142	4	4	4	3
o	COD	mg/L	18	425	515	23	17	25	24
o	Ammonia plus Ammonium	mg/L	0.22	0.33	0.23	0.03	0.25	0.18	0.14
o	Nitrate+Nitrite	mg/L	0.22	0.46	0.35	0.09	0.17	0.17	0.22
o	Total Kjeldahl nitrogen	mg/L	1.3	0.3	1.9	0.2	0.1	0.1	0.2
o	Total suspended solids	mg/L	1	92	104	7	6	6	6
o	VSS	mg/L	1	75	51	5	5	6	5
o	Total phosphorus	mg/L	0.2	0.2	0.1	0.1	0.1	0.2	0.1
o	Hydrogen ion (pH)		–	2.1	11.2	7.8	10.3	6.6	6.7
o	Specific conductance	uS/cm	–	8676	3767	346	385	383	455
o	Oil and grease	mg/L	100.7	115.1	78.7	1.6	2.3	2.3	5.9
	Cyanide Total	mg/L	0.001	0.007	0.012	0.001	0.001	0.001	0.001
	Aluminum	ug/L	109.0	504.0	129.5	42.3	34.5	50.8	47.0
	Boron	ug/L	94.7	44.7	41.2	32.7	21.5	21.3	22.3
	Cadmium	ug/L	2.3	1.0	1.0	1.0	1.0	1.0	1.0
	Chromium	ug/L	5.3	137.8	47.8	20.8	7.3	6.7	7.0
	Copper	ug/L	4.7	71.7	22.7	5.7	3.0	3.5	4.3
	Lead	ug/L	8.0	247.7	114.0	9.3	9.3	9.8	10.2
	Nickel	ug/L	6.7	37.7	16.4	8.5	8.7	8.7	8.7
	Zinc	ug/L	141.7	53585.4	2133.5	315.2	1275.3	1661.3	1810.3
	Antimony	ug/L	3.0	9.0	2.3	3.0	1.8	3.0	3.0
	Chromium (hexavalent)	ug/L	20.0	35.0	–	20.0	–	20.0	20.0
	Mercury	ug/L	0.03	15.25	5.19	0.30	0.27	0.30	0.21
	Phenolics (4AAP)	ug/L	1.4	23.4	29.6	3.4	5.0	4.5	5.0
	Sulphide	ug/L	317.3	36718.7	89283.4	3674.5	991.3	1418.1	1271.8

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – COURTAULDS FIBRES CANADA – CORNWALL

	PARAMETER	UNIT	IN 1300	PR 0100	PR 0300	CO 0500	CO 0600	CO 0700	CO 0800
	Chloroform	ug/L	0.4	42.6	23.8	0.4	0.4	0.4	0.4
	Biphenyl	ug/L	0.7	0.4	0.4	0.4	0.4	0.4	0.4
	Bis(2–ethylhexyl) phthalate	ug/L	1.4	4.7	4.6	1.4	1.4	1.4	1.4
	Di–n–octyl phthalate	ug/L	0.8	0.8	3.7	0.9	1.0	0.8	0.8
	Diphenyl ether	ug/L	0.7	0.4	0.4	0.4	0.4	0.4	0.4
	1,2,3–Trichlorobenzene	ng/L	6.1	8.6	8.6	8.6	8.6	8.6	11.3
	2,4,5–Trichlorotoluene	ng/L	2.1	2.7	2.7	3.4	2.7	2.7	8.9
	Hexachlorobenzene	ng/L	2.3	3.5	3.0	3.0	3.0	3.0	10.2
	Hexachloroethane	ng/L	14.2	1.7	1.7	1.7	1.7	1.7	2.2
	Pentachlorobenzene	ng/L	3.0	2.1	2.1	2.1	2.1	2.1	9.2
	Ftflow	m3/day	–	6005	2050	11170	33729	6529	11058

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
IN 1300 – Intake to Site
PR 0100 – Acid Sewer to River
PR 0300 – Alkaline Sewer to River
CO 0500 – Storm Sewer to River
CO 0600 – Acid Recovery Sewer to River
CO 0700 – CS2 Sewer to River
CO 0800 – Caravelle Sewer to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – COURTAULDS FIBRES CANADA – CORNWALL

	PARAMETER	IN 1300	PR 0100	PR 0300	CO 0500	CO 0600	CO 0700	CO 0800	TOTAL
o	DOC	371.141	1219.995	205.411	69.530	190.785	40.838	72.883	1799.442
o	TOC	–	1269.275	376.466	39.827	101.110	31.824	40.983	1859.485
o	COD	1260.478	2910.075	1375.155	329.083	692.698	155.777	270.705	5733.493
o	Ammonia plus Ammonium	15.616	2.590	0.314	0.358	7.980	1.494	1.244	13.980
o	Nitrate+Nitrite	15.196	2.365	0.860	1.236	7.066	1.100	2.495	15.122
o	Total Kjeldahl nitrogen	89.144	1.714	1.247	2.291	4.453	0.670	1.696	12.071
o	Total suspended solids	70.027	570.946	262.676	82.324	187.569	43.752	63.703	1210.970
o	VSS	70.027	460.131	86.173	56.543	159.693	39.916	56.655	859.111
o	Total phosphorus	15.616	1.168	0.154	1.341	4.164	1.114	1.564	9.505
o	Oil and grease	7053.772	634.768	140.824	17.941	73.640	16.088	58.913	942.174
	Cyanide Total	0.07	0.051	0.035	0.007	0.023	0.003	0.006	0.125
	Aluminum	7.633	2.565	0.427	0.493	1.220	0.332	0.489	5.526
	Boron	6.629	0.266	0.080	0.351	0.744	0.125	0.247	1.813
	Cadmium	0.163	0.006	0.002	0.013	0.034	0.006	0.011	0.072
	Chromium	0.373	0.818	0.047	0.192	0.226	0.038	0.075	1.396
	Copper	0.327	0.404	0.083	0.067	0.102	0.023	0.047	0.726
	Lead	0.560	1.440	0.210	0.117	0.318	0.059	0.111	2.255
	Nickel	0.467	0.205	0.027	0.106	0.295	0.051	0.095	0.779
	Zinc	9.920	308.886	12.657	3.260	42.926	11.348	20.873	399.950
	Antimony	0.210	0.054	0.008	0.043	0.077	0.021	0.032	0.235
	Chromium (hexavalent)	1.401	0.167	–	0.214	–	0.119	0.226	0.726
	Mercury	0.002	0.089	0.015	0.003	0.009	0.002	0.002	0.120
	Phenolics (4AAP)	0.098	0.131	0.077	0.044	0.200	0.033	0.053	0.538
	Sulphide	22.222	213.139	210.843	41.028	33.601	9.044	14.679	522.334

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – COURTAULDS FIBRES CANADA – CORNWALL

	PARAMETER	IN 1300	PR 0100	PR 0300	CO 0500	CO 0600	CO 0700	CO 0800	TOTAL
	Chloroform	0.028	0.235	0.090	0.005	0.014	0.003	0.004	0.351
	Biphenyl	0.046	0.003	0.001	0.006	0.015	0.003	0.004	0.032
	Bis(2–ethylhexyl) phthalate	0.098	0.028	0.017	0.020	0.054	0.010	0.015	0.144
	Di–n–octyl phthalate	0.056	0.005	0.259	0.013	0.040	0.006	0.008	0.331
	Diphenyl ether	0.046	0.003	0.001	0.006	0.015	0.003	0.004	0.032
	1,2,3–Trichlorobenzene	*	*	*	*	*	*	*	*
	2,4,5–Trichlorotoluene	*	*	*	*	*	*	*	*
	Hexachlorobenzene	*	*	*	*	*	*	*	*
	Hexachloroethane	0.001	*	*	*	*	*	*	*
	Pentachlorobenzene	*	*	*	*	*	*	*	*

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 1300 – Intake Water to Site
PR 0100 – Acid Sewer to River
PR 0300 – Alkaline Sewer to River
CO 0500 – Storm Sewer to River
CO 0600 – Acid Recovery Sewer to River
CO 0700 – CS2 Sewer to River
CO 0800 – Caravelle Sewer to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	UNIT	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100
o	DOC	mg/L	2.3	79.1	2.6	3.6	14.8	7.2
o	TOC	mg/L	–	100	4	4	8	12
o	COD	mg/L	13	303	13	14	374	101
o	Ammonia plus Ammonium	mg/L	0.10	21.36	0.18	0.21	0.21	1.10
o	Nitrate+Nitrite	mg/L	0.33	13.44	0.51	2.85	1.37	2.79
o	Total Kjeldahl nitrogen	mg/L	0.3	43.1	0.4	0.7	1.4	4.1
o	Total suspended solids	mg/L	18	326	19	7	6	14
o	VSS	mg/L	5	369	4	5	5	14
o	Total phosphorus	mg/L	0.1	3.8	0.1	0.1	0.1	0.2
o	Hydrogen ion (pH)		8.1	8.2	8.7	7.3	7.8	7.7
o	Specific conductance	uS/cm	313	1951	1341	582	381	412
o	Oil and grease	mg/L	1.0	4.8	1.2	1.0	1.0	2.5
	Cyanide Total	mg/L	0.005	0.214	0.005	0.013	0.015	0.065
	Aluminum	ug/L	51.7	61.7	130.0	31.7	55.0	55.0
	Boron	ug/L	61.7	68.3	145.0	65.0	50.0	60.0
	Cobalt	ug/L	20.0	64.6	20.0	20.0	20.0	20.0
	Copper	ug/L	10.0	187.5	10.0	16.7	10.0	84.0
	Nickel	ug/L	10.0	13.3	15.0	10.0	10.0	10.0
	Vanadium	ug/L	20.0	69.0	20.0	20.0	25.0	20.0
	Zinc	ug/L	10.0	75.0	10.0	10.0	10.0	100.0
	Antimony	ug/L	1.9	2.0	154.2	17.5	4.5	6.5
	Arsenic	ug/L	2.0	2.0	20.9	2.0	2.0	2.2
	Phenolics (4AAP)	ug/L	1.7	29.8	5.3	5.3	7.8	10.8
	Sulphide	ug/L	10.0	16.5	23.0	10.0	10.0	10.0

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	UNIT	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100
	1,1,2,2–Tetrachloroethane	ug/L	1.0	19.5	176.6	52.5	52.5	1.7
	1,1,2–Trichloroethane	ug/L	0.3	4.0	25.7	10.5	10.5	0.4
	1,1–Dichloroethane	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	1,1–Dichloroethylene	ug/L	0.5	9.8	36.7	26.3	26.3	0.8
	1,2–Dichlorobenzene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	1,2–Dichloroethane	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	1,2–Dichloropropane	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	1,3–Dichlorobenzene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	1,4–Dichlorobenzene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	Bromodichloromethane	ug/L	0.4	3.9	26.9	10.7	10.5	0.8
	Bromoform	ug/L	2.0	39.0	146.7	105.0	105.0	3.3
	Bromomethane	ug/L	2.0	39.0	146.7	105.0	105.0	3.3
	Carbon tetrachloride	ug/L	0.2	3.9	173.0	10.8	13.6	1.2
	Chlorobenzene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	Chloroform	ug/L	1.4	2.0	71.7	11.3	11.7	1.8
	Chloromethane	ug/L	2.0	39.0	146.7	105.0	105.0	3.3
	Cis–1,3–Dichloropropylene	ug/L	0.5	9.8	36.7	26.3	26.3	0.8
	Dibromochloromethane	ug/L	1.0	19.5	176.6	52.5	52.5	1.7
	Ethylene dibromide	ug/L	1.0	19.5	73.3	52.5	52.5	1.7
	Methylene chloride	ug/L	1.3	1.9	44.0	2.5	2.5	1.1
	Tetrachloroethylene	ug/L	0.5	9.8	5294.7	26.7	248.4	16.2
	Trans–1,2–Dichloroethylene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	Trans–1,3–Dichloropropylene	ug/L	0.5	9.8	36.7	26.3	26.3	0.8
	Trichloroethylene	ug/L	0.2	3.9	14.7	10.5	10.5	0.3
	Trichlorofluoromethane	ug/L	1.0	19.5	3615.5	54.2	100.3	17.3
	Vinyl chloride	ug/L	2.0	39.0	146.7	105.0	105.0	3.3
	Benzene	ug/L	0.1	2.4	7.9	6.0	101.1	0.8
	Ethylbenzene	ug/L	0.2	3.9	12.0	10.5	10.5	0.3
	Styrene	ug/L	0.2	3.9	12.0	10.5	10.5	0.3

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE CONCENTRATION VALUES
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	UNIT	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100
	Toluene	ug/L	0.2	3.9	12.0	10.5	10.5	0.5
	m–Xylene and p–Xylene	ug/L	0.2	4.2	12.0	10.5	10.5	0.5
	o–Xylene	ug/L	0.2	3.9	12.0	10.5	10.5	0.3
	Acrolein	ug/L	4.0	202.0	240.0	210.0	210.0	12.0
	Acrylonitrile	ug/L	2.0	101.0	120.0	105.0	105.0	6.0
	Biphenyl	ug/L	0.5	18.6	0.5	1.5	2.6	0.5
	Bis(2–ethylhexyl) phthalate	ug/L	2.0	2.0	3.6	2.0	2.0	2.0
	Diphenyl ether	ug/L	0.4	179.2	0.5	3.8	10.1	0.5
	1,2,4–Trichlorobenzene	ng/L	6.0	8.7	67.5	5.5	7.5	7.7
	2,4,5–Trichlorotoluene	ng/L	5.0	8.7	8.5	5.0	5.5	6.5
	Hexachlorobenzene	ng/L	6.0	8.3	178.0	5.0	6.5	5.5
	Hexachlorobutadiene	ng/L	5.5	8.7	33.5	5.0	7.5	6.2
	Hexachloroethane	ng/L	5.5	8.3	162.0	5.0	15.0	10.5
	2,3,7,8 TCDD	pg/L	20.0	20.0	27.5	20.0	20.0	22.5
	Octachlorodibenzo–p–dioxin	pg/L	30.0	50.0	34.5	35.5	220.0	30.0
	Octachlorodibenzofuran	pg/L	30.0	30.0	165.5	30.0	48.0	30.0
	Total PCDD	pg/L	10.0	20.0	28.0	20.0	20.0	20.0
	Total TCDD	pg/L	20.0	20.0	55.0	20.0	20.0	1310.0
	Ftflow	m3/day	–	6479	5821	14202	54736	171943

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS
IN 1000 – Intake Water to Site
PR 0300 – WTP Effluent flows into CO 1100
CO 0400 – CFH Effluent flows into CO 0700
CO 0500 – Spandex, Polymers, Powerhouse Effluent flows into CO 1100
CO 0700 – Cribbed Ditch flows into CO 1100
CO 1100 – Site Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100	TOTAL
o	DOC	387.388	868.573	15.227	50.512	808.991	1248.333	1248.333
o	TOC	–	993.818	20.796	48.640	456.000	2035.068	2035.068
o	COD	2149.293	383.500	75.700	184.500	23514.00	18506.00	18506.00
o	Ammonia plus Ammonium	17.882	98.855	1.062	2.565	11.522	165.876	165.876
o	Nitrate+Nitrite	57.429	155.178	3.093	36.919	74.998	393.102	393.102
o	Total Kjeldahl nitrogen	57.945	226.762	2.365	9.635	77.738	653.142	653.142
o	Total suspended solids	3011.417	1989.798	110.719	85.906	311.919	2418.363	2418.363
o	VSS	859.717	2895.070	23.693	66.500	285.000	2576.000	2576.000
o	Total phosphorus	17.194	18.856	0.598	1.396	5.683	36.740	36.740
o	Oil and grease	179.337	11.200	7.108	14.962	54.682	529.152	529.152
	Cyanide Total	0.860	1.435	0.030	0.168	0.794	11.963	11.963
	Aluminum	8.884	0.700	0.784	0.437	3.285	8.993	8.993
	Boron	10.603	0.740	0.873	0.918	2.850	9.284	9.284
	Cobalt	3.439	0.531	0.121	0.279	1.140	3.342	3.342
	Copper	1.719	1.659	0.061	0.236	0.570	13.915	13.915
	Nickel	1.719	0.148	0.091	0.139	0.570	1.500	1.500
	Vanadium	3.439	0.739	0.121	0.279	1.455	3.000	3.000
	Zinc	1.719	0.217	0.061	0.139	0.570	10.409	10.409
	Antimony	0.333	0.014	0.892	0.206	0.272	1.071	1.071
	Arsenic	0.344	0.015	0.116	0.027	0.114	0.330	0.330
	Phenolics (4AAP)	0.288	0.028	0.032	0.070	0.455	1.972	1.972
	Sulphide	1.719	0.059	0.138	0.133	0.570	1.840	1.840

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100	TOTAL
	1,1,2,2–Tetrachloroethane	0.172	0.315	1.041	0.617	3.278	0.274	0.274
	1,1,2–Trichloroethane	0.043	0.063	0.146	0.123	0.656	0.560	0.560
	1,1–Dichloroethane	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	1,1–Dichloroethylene	0.086	0.157	0.214	0.309	0.656	0.137	0.137
	1,2–Dichlorobenzene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	1,2–Dichloroethane	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	1,2–Dichloropropane	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	1,3–Dichlorobenzene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	1,4–Dichlorobenzene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	Bromodichloromethane	0.069	0.063	0.161	0.126	0.656	0.110	0.110
	Bromoform	0.344	0.630	0.855	1.235	6.555	0.548	0.548
	Bromomethane	0.344	0.630	0.855	1.235	6.555	0.548	0.548
	Carbon tetrachloride	0.034	0.063	0.997	0.128	0.814	0.189	0.189
	Chlorobenzene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	Chloroform	0.238	0.020	0.448	0.135	0.717	0.243	0.243
	Chloromethane	0.344	0.630	0.855	1.235	6.555	0.548	0.548
	Cis–1,3–Dichloropropylene	0.086	0.157	0.214	0.309	1.639	0.137	0.137
	Dibromochloromethane	0.172	0.315	1.040	0.617	3.278	0.274	0.274
	Ethylene dibromide	0.172	0.315	0.428	0.617	3.278	0.274	0.274
	Methylene chloride	0.222	0.321	7.524	0.428	0.428	0.195	0.195
	Tetrachloroethylene	0.086	0.157	30.263	0.315	15.578	2.849	2.849
	Trans–1,2–Dichloroethylene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	Trans–1,3–Dichloropropylene	0.086	0.157	0.214	0.309	1.639	0.137	0.137
	Trichloroethylene	0.034	0.063	0.086	0.123	0.656	0.055	0.055
	Trichlorofluoromethane	0.172	0.315	20.851	0.642	6.093	2.653	2.653
	Vinyl chloride	0.344	0.630	0.855	1.235	6.555	0.548	0.548
	Benzene	0.017	0.038	0.047	0.072	6.356	0.130	0.130
	Ethylbenzene	0.034	0.063	0.072	0.123	0.656	0.055	0.055
	Styrene	0.034	0.063	0.072	0.123	0.656	0.055	0.055

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT
SIX MONTH AVERAGE LOADING VALUES (kg/day)
PLANT SITE – DU PONT CANADA INC. – MAITLAND

	PARAMETER	IN 1000	PR 0300	CO 0400	CO 0500	CO 0700	CO 1100	TOTAL
	Toluene	0.034	0.063	0.072	0.123	0.656	0.075	0.075
	m–Xylene and p–Xylene	0.037	0.068	0.072	0.123	0.656	0.082	0.082
	o–Xylene	0.034	0.063	0.072	0.123	0.656	0.055	0.055
	Acrolein	0.688	2.360	1.444	2.470	13.110	2.224	2.224
	Acrylonitrile	0.344	1.180	0.722	1.235	6.555	1.112	1.112
	Biphenyl	0.086	0.003	0.003	0.021	0.133	0.092	0.092
	Bis(2–ethylhexyl) phthalate	0.344	0.012	0.022	0.027	0.114	0.368	0.368
	Diphenyl ether	0.069	0.002	0.003	0.056	0.518	0.092	0.092
	1,2,4–Trichlorobenzene	0.001	*	*	*	*	0.001	0.001
	2,4,5–Trichlorotoluene	0.001	*	*	*	*	0.001	0.001
	Hexachlorobenzene	0.001	*	0.001	*	*	0.001	0.001
	Hexachlorobutadiene	0.001	*	*	*	*	0.001	0.001
	Hexachloroethane	0.001	*	0.001	*	0.001	0.002	0.002
	2,3,7,8 TCDD	*	*	*	*	*	*	*
	Octachlorodibenzo–p–dioxin	*	*	*	*	*	*	*
	Octachlorodibenzofuran	*	*	*	*	*	*	*
	Total PCDD	*	*	*	*	*	*	*
	Total TCDD	*	*	*	*	*	*	*

EXPLANATORY NOTES:
'–' not required by the regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 1000 – Intake Water to Site
PR 0300 – WTP Effluent flows into CO 1100
CO 0400 – CFH Effluent flows into CO 0700
CO 0500 – Spandex,Polymers,Powerhouse Effluent flows into CO 1100
CO 0700 – Cribbed Ditch flows into CO 1100
CO 1100 – Site Effluent to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MARCH 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE CONCENTRATION VALUES

PLANT SITE – ROHM AND HAAS CANADA INC. – MORRISBURG

	PARAMETER	UNIT	IN 0500	PR 0200	CO 0100
o	DOC	mg/L	–	7.8	15.7
o	TOC	mg/L	–	–	22
o	COD	mg/L	–	32	139
o	Ammonia plus Ammonium	mg/L	–	0.03	0.20
o	Nitrate+Nitrite	mg/L	–	0.21	0.27
o	Total Kjeldahl nitrogen	mg/L	–	0.6	0.9
o	Total suspended solids	mg/L	–	4	7
o	VSS	mg/L	–	4	5
o	Total phosphorus	mg/L	–	0.1	0.3
o	Hydrogen ion (pH)		–	7.9	7.8
o	Specific conductance	uS/cm	–	342	448
o	Oil and grease	mg/L	–	2.4	2.1
	Cyanide Total	mg/L	–	0.005	0.004
	Aluminum	ug/L	–	21.5	33.5
	Copper	ug/L	–	7.3	16.5
	Zinc	ug/L	–	5.8	14.3
	Antimony	ug/L	–	3.0	18.0
	Phenolics (4AAP)	ug/L	–	3.3	4.7
	Sulphide	ug/L	–	31.2	51.5
	Bromodichloromethane	ug/L	10.9	4.2	3.0
	Chloroform	ug/L	16.8	8.7	27.0
	Dibromochloromethane	ug/L	3.7	3.1	0.8
	Ethylbenzene	ug/L	0.4	3.7	1.3
	Toluene	ug/L	0.4	55.0	153.6
	m–Xylene and p–Xylene	ug/L	0.5	14.2	5.4
	o–Xylene	ug/L	0.4	9.9	4.8
	Naphthalene	ug/L	–	0.3	1.1
	2,4–Dichlorophenol	ug/L	–	1.6	1.5
	Ftflow	m3/day	640	357	620

EXPLANATORY NOTES:
'–' no concentration data available or not required by regulation
'o' – conventional parameter

SAMPLING POINTS:
IN 0500 – Intake Water to Site
PR 0200 – Oil Additives Process Effluent flows into CO 0100
CO 0100 – Final Outfall to River

OCM SECTOR SIX MONTH REPORT – DATA FROM OCT 01/89 TO MAR 31/90

PARAMETERS FOUND AT EACH SAMPLING POINT

SIX MONTH AVERAGE LOADING VALUES (kg/day)

PLANT SITE – ROHM AND HAAS CANADA INC. – MORRISBURG

	PARAMETER	IN 0500	PR 0200	CO 0100	TOTAL
o	DOC	–	2.709	9.583	9.583
o	TOC	–	–	12.387	12.387
o	COD	–	13.225	88.642	88.642
o	Ammonia plus Ammonium	–	0.011	0.130	0.130
o	Nitrate+Nitrite	–	0.080	0.168	0.168
o	Total Kjeldahl nitrogen	–	0.244	0.554	0.554
o	Total suspended solids	–	1.230	4.221	4.221
o	VSS	–	1.370	2.867	2.867
o	Total phosphorus	–	0.057	0.184	0.184
o	Oil and grease	–	0.886	1.410	1.410
	Cyanide Total	–	0.002	0.002	0.002
	Aluminum	–	0.009	0.023	0.023
	Copper	–	0.003	0.012	0.012
	Zinc	–	0.002	0.010	0.010
	Antimony	–	0.001	0.011	0.011
	Phenolics (4AAP)	–	0.001	0.003	0.003
	Sulphide	–	0.013	0.035	0.035
	Bromodichloromethane	0.007	0.002	0.002	0.002
	Chloroform	0.010	0.003	0.018	0.018
	Dibromochloromethane	0.002	0.001	0.001	0.001
	Ethylbenzene	*	0.001	0.001	0.001
	Toluene	*	0.023	0.114	0.114
	m–Xylene and p–Xylene	*	0.005	0.003	0.003
	o–Xylene	*	0.004	0.003	0.003
	Naphthalene	–	*	0.001	0.001
	2,4–Dichlorophenol	–	0.001	0.001	0.001

EXPLANATORY NOTES:
'–' not required by regulation or no conc/flow data available
'*' loading less than 1 gram/day
'o' – conventional parameter

SAMPLING POINTS:
IN 0500 – Intake Water to Site
PR 0200 – Oil Additives Process Effluent flows into CO 0100
CO 0100 – Final Outfall to River